SCIENTIFIC, MEDICAL, AND TECHNICAL BOOKS

PUBLISHED IN THE
UNITED STATES OF AMERICA

A Selected List of Titles in Print with Annotations

SECOND SUPPLEMENT
BOOKS PUBLISHED 1949-1952

EDITED BY R R HAWKINS

CHIEF OF THE SCIENCE AND TECHNOLOGY DIVISION
NEW YORK PUBLIC LIBRARY

PREPARED UNDER THE DIRECTION OF THE NATIONAL RESEARCH COUNCIL'S COMMITTEE ON BIBLIOGRAPHY OF AMERICAN SCIENTIFIC AND TECHNICAL BOOKS

WASHINGTON
1953

NATIONAL RESEARCH COUNCIL

COMMITTEE ON

AMERICAN SCIENTIFIC AND TECHNICAL BIBLIOGRAPHY

HARRISON W CRAVER, *Chairman* (March–October 1944)
Deceased

JOHN F FULTON *Chairman* (November 1944–)
Yale University School of Medicine

R. R. HAWKINS *Editor*
New York Public Library

EDWARD M CRANE
D Van Nostrand Company Inc.

KARL K. DARROW
Bell Telephone Laboratories Inc.

N L. DRAKE
University of Maryland

LEWIS U HANKE
University of Texas

ROSS G HARRISON
Yale University

JAMES W JOYCE
Office of the Science Adviser Department of State

H. M LYDENBERG
American Library Association

RALPH H. PHELPS
Engineering Societies Library

LT COL. FRANK B ROGERS
Armed Forces Medical Library

LAWRENCE SAUNDERS
W B Saunders Company

PREFACE

The purpose of this bibliographical series is to supply descriptions of the outstanding scientific, medical and technical books written by citizens of Canada and the United States of America, published in the U S A., and available for both domestic and foreign distribution. Its origins are fully described in the Preface to the first volume published in 1946 under the title "Scientific, Medical and Technical Books Published in the United States of America 1930–1944 a Selected List of Titles in Print, with Annotations edited by R. R. Hawkins."

A primary motive in the establishment of the series was the furthering of cultural relations between the United States of America and other nations. Experience with the first volume and its supplement has shown that the series has considerable usefulness in our own country as well as in foreign countries. The original work represented a selection from books published during fifteen years, 1930–1944 The first supplement, published in 1950 provided a selection of books published in original or substantially revised editions during the years 1945–1948 This second supplement describes a selection of books published in original or substantially revised editions during the years 1949–1952

The scope in regard to kinds of publications is the same as in the 1930–1944 and 1945–1948 compilations. Again, books published in regular book trade channels predominate. Monographs, symposia and papers published by American scientific and technical societies are included, but these are not so fully presented as trade books primarily because many such publications are printed for members of the publishing society and for exchange with other societies rather than for general distribution. A selection of documents published by the National Government is included, but the publications of state and local governments are not represented, except for books published by state university presses and distributed through established book trade channels. Manufacturer's publications except for one or two titles have been excluded. Suggestions as to other sources of information about American publications in these categories are given in the Introduction to the original volume.

The subject scope of this work is indicated in the title and in more detail in the Table of Contents. Medicine, the pure and applied sciences, and technology are covered, but there are certain exceptions. The social sciences are omitted except for certain works in such fields as nursing and psychology where some books which are listed are equally useful for sociological and technical information. A few small areas of technology for example the technical aspects of printing and allied arts are not covered at all and other semi technical fields of which gardening is an example are covered less thoroughly than such fields as electrical engineering. In these semi-technical fields the editorial policy was to include the books of good quality which were turned up in the course of work on other parts of the list but not to pursue the subjects to the extent of special research. No books are listed in the second supplement under the headings, Fire arms Military Science or Naval Science. These topics were dropped because so much of the current literature that has research value is not available for general distribution.

Several new headings have been added. Most of them were made necessary by the appearance of a substantial body of literature on topics having little or no book literature when the earlier compilations were made. One heading—Handicrafts—has been added because there appeared to be a considerable interest abroad in the outstanding American books written for amateur craftsmen.

As in the original volume, the selection in most fields of knowledge is a liberal one. Throughout the selection process the aim has been to choose the books of merit among those which met the gross qualifications of date of publication, author's citizenship and availability The selections on a given subject are intended to represent the books that would be available in a well-stocked American library with an active collection in that subject. The list should be viewed as one of important and useful books rather than a list of 'best books.

Elementary and secondary school textbooks and books written on these educational levels have been excluded but well-written books for lay readers and a select number of vocational school textbooks have been included. Among these books, preference has been given to books

suitable for home reading and self-instruction. Well-established college textbooks and new texts which possess useful novel features have been included because of the usefulness of such books in libraries and to some persons no longer attending schools but no effort was made to include all or even most of the 'standard" texts currently used in American colleges and universities.

Books known to be out of print when the manuscript of the first volume in our series was ready for the printer were omitted from it. Both the first and this second supplement also are primarily lists of in print books. However, because shorter periods are covered and also because of a change in the routine of sending the manuscript to press, somewhat less attention was paid to eliminating all known out-of print books If it was discovered that a book was not available before the manuscript description was mailed to the printer the book was dropped but if the discovery was made after the description was set in type, the type was sometimes allowed to stand. The traditional o.p." standing for out-of print" therefore appears in place of the price in a few of the descriptions in this volume.

Although most American publishers cooperated wholeheartedly with the Committee and the Editor in the supplying of information and of copies of their books for examination, several ignored our requests or failed to supply examination copies. Since the editorial procedure required examination of the books, a few titles are not listed because no copy was available to the editorial staff

The procedure of selection was as follows As the first step the Editor and his staff read through the comprehensive *Cumulative Book Index* and selected lists such as *United States Quarterly Book List Science News Letter* and *New Technical Books* and made out slips for all of the books which appeared to be eligible. These slips were arranged by publishers. A statement of the purpose of the Committee's work and the general eligibility requirements was drawn up. Each publisher represented in the preliminary lists was sent a copy of this statement together with the list of books published by him which appeared to be eligible. The publishers were asked to eliminate any books which did not meet the Committee's general requirements for eligibility for example, those by foreign authors, and were asked to suggest additional titles which appeared to be eligible. Examination copies of all books to be considered were requested.

When the books were received, they were examined by the Editor and his associates Books which were patently ineligible were eliminated at this stage. Descriptions similar to and in many cases identical with, the descriptions in the present book were prepared for the books which survived this preliminary test. Next, these descriptions were classified by subject and the subject lists were sent to specialists in various fields who had agreed to act as consultants to the Committee. Our consultants made many valuable suggestions, both as to books which could be dropped from the lists and books which should be added. Several of them even undertook the rewriting of some of the annotations in order to improve the accuracy of the descriptions.

Eventually the final selection of books was made by the Editor on the basis of his own judgment, the reviews in periodicals and the recommendations of the consultants. The Editor is responsible also for the final form of the notes. As is customary he assumes the responsibility for all of the faults of the selections and the book descriptions. Nevertheless whatever excellent qualities the work has are definitely the result of collaboration among the Editor his assistants, the Committee, and the consultants.

Classification of scientific and technical literature is a vexatious problem which constantly grows more difficult as areas of knowledge which once had fairly definite boundaries tend to merge with adjacent areas. Classification of a comprehensive small list is even more difficult than classification of a comprehensive large list. Furthermore, the principles of good typography made it inadvisable to set up either a main heading or a subheading and enter only one or two books under it. Accordingly many of the subheadings found in our previous volumes are not present in this supplement. In several fields the subheading "General now includes several very specialized books which were not numerous enough to justify specific subheadings. In some instances it proved necessary to telescope several of the subgroups formerly used An effort was made in the preparation of the subject index to compensate for inadequacies of the classification.

The bibliographical descriptions and abbreviations used in the first volume proved to be adequate and have been repeated without change in this one. In most cases no attention has been paid to preliminary matter included before the start of the main paging, hence the number of pages given represents the body of

Preface

the book. However when two sets of pages are indicated, for example, "143 21 p." supplementary paging has been noted. Illustrative material is described simply Any graphic or pictorial matter aside from printed text has been indicated by the phrase "Illus." Colored illustrations have been indicated by the abbreviation "col d." Colored illustrations combined with black and white are indicated by "(part col d)" The only dimension included is height, expressed in centimeters, abbreviated "cm." When binding is not described cloth or other "hard" binding can be assumed in most cases. Paper bindings were indicated when it was known to the editor that the books were supplied only in paper When both paper and cloth bindings are available both bindings are listed with their respective prices.

All publishers were asked to supply the current prices of their books and also to indicate any special prices or additional charges made to buyers in other countries. The prices given in the printed work represent the information supplied by the publishers but not all publishers were careful to supply information on foreign charges. Prices in this book are therefore not guaranteed. Inquiries about current prices should be made of the publisher in all cases where it is essential to have an accurate price.

The headings listed under *"Contents"* have been taken directly from the books. When it was necessary to abridge the table of contents of a book, an effort was made to select headings which illustrate the book's scope and special features. The notes are designed to supplement the information given out in the *titles and tables of contents especially to bring* out unusual features, indicate uses and reader groups not indicated in the titles and to mention the more significant changes in new editions. The number or numbers that follows the word *"Note"* is a reference to a numbered entry in our original volume or the first supplement a plain number indicates the original volume—a number followed by an asterisk, the first supplement. In most instances the reference is to a description of an earlier edition. In a few cases, the reference is made to a description of a companion or related book. Some of the notes were taken with little or no change from the New York Public Library's bimonthly *New Technical Books* As already mentioned a few were written or revised by our consultants. All of the others were written by the editor and his staff

As in the preparation of the original work and the first supplement, an Executive Subcommittee acted for the larger Committee in overseeing preparation of the manuscript and its printing Of this group Dr Fulton gave judicious advice on editorial matters and Mr Crane kept all questions concerning finance from falling on the Editor's shoulders.

Again Mr Daniel C. Haskell assumed and carried out the tasks of marking copy for the printing and reading the proofs of the whole book. Jack E. Brown compiled the author and subject indexes supervised the organization of part of the manuscript, and wrote some of the notes. Joseph C. Borden as usual, contributed many notes. The Editor's secretary Mrs. Joan Dunn carried the major burden of "keeping track of things" the letters to publishers, the arrival of books the whereabouts of various portions of the manuscript, in addition to doing most of the typing.

The following persons, in addition to the Committee, gave advice or served as consultants and the thanks of both the Editor and the Committee are gratefully extended to them

Dr Joseph Ashbrook
Yale University Observatory

Professor Frank A. Beach
Department of Psychology
Yale University

Professor Claude E Buxton
Department of Psychology
Yale University

Professor I Bernard Cohen
Harvard University

Dr J O Corliss
Osborn Zoological Laboratory
Yale University

Professor R. C. Fuson
Department of Chemistry
University of Illinois

Professor Dale B Harris
Institute of Child Welfare
University of Minnesota

Professor Chester R. Longwell
Department of Geology
Yale University

Professor Aubrey W Naylor
Department of Botany
Duke University

Mrs. Henrietta T Perkins
Yale Medical Library

Ross Stagner
ment of Psychology
sity of Illinois

Robert L. Thorndike
rs College
ia University

Professor Hurd C. Willett
Department of Meteorology
Massachusetts Institute of Technology

R. R. HAWKINS

New York Public Library
August, 1953

TABLE OF CONTENTS

Scientific, Medical, and Technical Books

Scientific, Medical, and Technical Books

SCIENCE

GENERAL

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Centennial collected papers presented at the centennial celebration, Washington D C., September 13–17 1948. Washington American *Association for the Advancement of Science*, 1950 313 p. illus. 27 cm. $5.00 1

Contents: Sciences of society: Is economics necessary? by K. E. Boulding. Have civilizations a life history? by A. L. Kroeber. Sociology and the strategy of social science, by S. A. Stouffer. Science and the control of human population, by W S. Thompson. Educational potentials: Growth potentials of the human infant, by A. Gesell. The social environment of the educational process, by T. Parsons. Educability and the schools, by R. W Tyler. Human individuality: The human frontier, by R. J. Williams. Primary mental abilities, by L. L. Thurstone. The genetic approach to human individuality by L. H. Snyder. The individual and the culture process, by L. A. White. Nutrition: Nutrition and the climatic pattern of soil development, by W A. Albrecht. Seven decades of nutrition research, by A. C. Elvehjem. Cultural contexts of nutritional patterns, by M. Mead. Housing: Housing—where the natural and social sciences meet, by B. J. Hovde. The contribution of science to housing, by L. W Hamann. Housing in the redevelopment of American cities, by C. Woodbury World health problems: The global concept of disease, by E. C. Faust. Public health in the international scene, by L. A. Scheele. Medical research—operation humanity by A. C. Ivy. The influence of modern developments in nuclear energy on public health problems, by S. L. Warren. Science, psychiatry survival, by K. E. Appel. Sources of energy: Solar energy by F Daniels. Energy from fossil fuels, by M. K. Hubbert. Atomic energy by E. P Wigner. The upper atmosphere: The sun and the earth, by D. H. Menzel. The circulation of the upper troposphere and lower stratosphere, by C. G. Rossby and H. C. Willett. The world's natural resources: On living in the biosphere, by G. E. Hutchinson. Plants and agriculture as exhaustible resources, by S. A. Cain. Biological problems of the ocean, by D. Merriman. Wood in an industrial world, by J. A. Hall. The exploitation of mineral resources, by T S. Lovering. Genes and cytoplasm: Genes as determiners of cellular biochemistry by D M. Bonner The role of cytoplasm in heredity by T M. Sonneborn. The effects of changes in quantity combination, and position of genes, by C. Stern. High polymers: Polyelectrolytes, by R. M. Fuoss. Structure and behavior of rubberlike substances, by H. M. James. Interactions of matter and radiation The elementary particles of physics, by C. D. Anderson. Oxygen isotopes in nature and in the laboratory by H. C. Urey New worlds for study by J. Hillier Waves and rhythms: Rhythmic behavior of the nervous system, by H. Hoagland. Sound waves and rhythms, by V O. Knudsen.

Note: Some of the papers in the volume were published previously elsewhere, but the majority are original.

BAITSELL GEORGE ALFRED editor

The centennial of the Sheffield Scientific School. New Haven Yale University Press, 1950. 206 p. illus. 24 cm. (Yale University Mrs. Hepsa Ely Silliman Memorial Lectures) $3.00 2

Contents: High energy physics, by E. O. Lawrence. Chemical achievement and hope for the future, by L. Pauling. Virus research—achievement and promise, by W M Stanley Genes and biological enigmas, by G. W Beadle. Citations for honorary degrees, by E. W Sinnott. The Sheffield Scientific School from 1847 to 1947, by C. H. Warren. Science and the whole man, by E. W Sinnott. Benjamin Silliman in his lighter moments, by J F Fulton. Greetings, by C. Seymour. The relationship of the Sheffield School to agriculture, by H. R. Vickery *Centennial greetings to the Sheffield Scientific School from Sigma Xi*, by G. A. Baitsell.

Note: The first four papers in this volume constitute the twenty-ninth series of the Mrs. Hepsa Ely Silliman Memorial Lectures. They are addressed primarily to educated laymen and they summarize significant recent advances in several scientific fields. The rest of the volume consists of special addresses on the occasion of the Centennial of the Sheffield Scientific School, the establishment of which in 1847 marked "the acceptance of science in America as an important and necessary part of education and of life in general.

BAITSELL, GEORGE ALFRED editor

Science in progress. Sixth series. New Haven Yale University Press, 1949 322 p. illus. 24 cm. (The Society of the Sigma Xi. National lectureships 1947 and 1948 and the Silliman lectures 1947) $5.00. 3

Contents: Preface, by G. A. Baitsell. From X-rays to nuclear fission, by H. D. Smyth. Elementary particle physics, by J. A. Wheeler High energy physics, by E. O. Lawrence. The eight new synthetic elements, by G. T Seaborg. Chemical achievement and hope for the future, by L. Pauling. Chromatography and spectroscopy in organic chemistry and stereochemistry by L. Zechmeister. Virus research: achievement and promise, by W M. Stanley The tubercle bacillus and tuberculosis, by R. J. Dubos. Genes and biological enigmas, by G. W Beadle. The evolution and function of genes, by A. H. Sturtevant. Modern soil science, by C. E. Kellogg. References. Index.

—— Science in progress. Seventh series. New Haven Yale University Press, 1951 512 pp. 26 cm. (The Society of the Sigma Xi. National lectureships, 1949 and 1950) $6.00 4

Contents: The first heart beats and the beginning of embryonic circulation, by B. M. Patten. The reproductive cycle of the rhesus monkey by G. W Corner. Human infancy and the embryology of behavior by A. Gesell. Radiation damage to the genetic material, by H. J. Muller Beyond the gene—two years later by T M. Sonneborn. The macromolecular structure of biological materials, by R. W G. Wyckoff. The elementary particles of physics, by C. D. Anderson. Atomic and solar energy F Daniels. Atomic structure and energy by J. R. Dunning. The theory of bonds, by E. Artin. History of the fauna of Latin America, by G. G. Simpson. The physical chemistry of polymers, by R. M. Fuoss. References. Index.

Note: (5th) Each volume of this series contains papers developed from lectures delivered under the sponsorship of the Society of the Sigma Xi at leading American universities. The purpose is to enable outstanding scientists to report on the progress being made in various fields of scientific research and to describe their own recent work. As in the preceding volumes, the topics are diversified, but there is some emphasis on the biological sciences. The authors have written primarily for audiences of trained scientists, but some of the papers have appeal for mature laymen who are versed in scientific terminology and basic concepts.

BAWDEN ARTHUR TALBOT

Man s physical universe a survey of physical science for colleges. Third edition. New York The Macmillan Company 1950 822 p. illus. 22 cm. $6.00 5

Contents (abridged): The intelligent solution of problems as they arise is the price of liberty The universe is vast system of parts moving and changing under the influence of flow of energy Continuous changes in the earth's surface have brought about conditions which make possible the life of modern man. Man has applied his knowledge of physical properties and physical changes to overcome many physical limitations. Man has discovered and harnessed

different forms of energy Energy may be propagated through the ether and through matter by means of vibrations. The applications of magnetism and electricity have greatly modified the activities of mankind. Man is mastering his material world through an ever increasing understanding of its nature. Creative chemistry has contributed greatly to man's physical progress. Man's physical welfare is the most important problem of physical science.

Note: (47) One of the more successful of the "cultural" type of introductions to science. Descriptions of applications of physics and chemistry make up most of the text, but a fair amount of space is given to geology astronomy and other sciences. There is practically no use of mathematics, and numerous headings in bold-face type, short paragraphs, readable style, and over 300 illustrations have been used to lure the unwilling student. Much new matter, most of it concerned with recent applications of science, has been introduced in this edition.

BURCHARD, JOHN ELY, editor

Mid-century—the social implications of scientific progress. Verbatim account of the discussions held at the Massachusetts Institute of Technology on the occasion of its mid-century convocation, March 31 April 1 and April 2 1949 Cambridge Mass. Published jointly by The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc. New York, 1950 549 p 23 cm. $7.50 6

Contents. The state of science. The twentieth century Man against nature Man against man. Science, materialism and the human spirit. The role of the individual in world [illegible] institutions. The problem of specialization in twentieth century education. The state, industry and the university The stars of the future. The obligations and ideas of an institute of technology Appendices. Biographical notes. Index.

Note In this book some 34 contemporaries who are famous for their work in science or in other fields, such as politics, discuss matters which are more or less related to the impact of science upon our society There is some emphasis, but not an overwhelming amount, on the special contributions and problems of universities. The speeches themselves are copiously supplemented by comments from the editor and others.

BUSH, GEORGE POLLOCK, AND LOWELL H. HATTERY editors

Scientific research its administration and organization. Washington The American University Press 1950 190 p. 25 cm. $3.25 7

Contents: Introduction: New challenge in administration, by L. H. Hattery Part one, Research organization Administration of sponsored research, by C. W Good. Problems in the coordination of Federal research, by L. R. Hafstad. Responsibility for planning research: committee versus staff, by E. W Scott. Government research contracts, by R. B Brewer. Part two, Administrative processes: Responsibilities of research directors, by H. L. Dryden. Planning research programs, by L. W Bass. Maintaining schedules for research activities, by H. A. Martin and D. L. Williams. Part three, Research personnel: Recruitment and selection of the research worker by E. U. Condon. Professional development of personnel, by A. H. Hausrath. Significance of fellowships in training scientific workers, by M. H. Trytten. Incentives from the viewpoint of scientist, by R. L. Zwemer. Incentives from the viewpoint of psychologist, by M. D. Hansen. Part four Aids to research Budgeting and analyzing costs for the research program, by A. F Siepert. Budgeting the research program, by Robert Curry Budgeting and cost accounting in research institutions, by W F Harwood. Internal [illegible] aids to research, by R. R. Shaw Part five, Research product Replication of research effort, by E. W Truffinger Duplication of effort in research and development programs, by N T Ball. Duplication in research and development, by R. R. Alexander Jr Publication and dissemination of research results, by H. A. Barton. Research reporting, evaluation and utilization, by G W Irving, Jr Part six, Conclusion. Principles of administration in the research environment, by G. P Bush Index of names. Index of subjects.

Note: A book made up of short papers presented at the first Institute on the Administration of Scientific Research and Development, held in Washington, D. C., under the joint sponsorship of the American University the National Research Council, and the American Association for the Advancement of Science. Most of the papers are informal and confined more or less to contemporary problems and recent developments. Together they present quick review of the current problems, efforts, and techniques of organized research rather than a comprehensive treatment. Some of the papers are accompanied by bibliographical footnotes, but there is no systematic list of references.

CHRISTMAN, RUTH C , editor

Soviet science. A symposium presented on December 27 1951 at the Philadelphia meeting of the American Association for the Advancement of Science. Arranged by Conway Zirkle and Howard A. Meyerhoff Published with the aid of a grant from the National Science Foundation Washington D C. American Association for the Advancement of Science, 1952 108 p 24 cm. $1.25 8

Contents: Russian genetics, by T Dobzhansky Russian physiology and pathology by W H. Gantt. Russian psychology and psychiatry by I. D. London. Scientific method and social science: East and West, by E. L. Ackoff. Russian contribution to soil science, by J. S. Joffe. Soviet physics and chemistry by J. Turkevich. Soviet mathematics, by J. R. Kline. Science and intellectual freedom in Russia, by L. Volin. An appraisal of science in the USSR, by C. Zirkle.

Note: The emphasis in this work is on Soviet science in our times; however, most of the papers contain references to earlier times and especially to Russian scientists who made great contributions to their field. Relationships between Soviet politics and Soviet science today are discussed. Contemporary journals and scientific institutions are mentioned.

COHEN, I BERNARD

Some early tools of American science an account of the early scientific instruments and mineralogical and biological collections in Harvard University With a foreword by Samuel Eliot Morison. Cambridge Harvard University Press, 1950 201 p illus. 25 cm. $4 75 9

Contents: Introduction, The history of science at Harvard. Note on the government of Harvard College. Scientific instruments at Harvard before the fire of 1764. Instruments for the study of natural philosophy after the fire of 1764. The beginnings of chemistry at Harvard. The biological sciences, the Museum, and The mineral cabinet. Conclusion. Appendixes: Thomas Hollis' gift of philosophical apparatus. The philosophical apparatus in 1779 Some early instruments and specimens at Harvard University The chemical laboratory in 1831. Bibliographical note. References and notes. Index.

Note: Harvard University maintains notable collection of old scientific instruments, dating from about 1764 This volume is essentially an illustrated catalogue of these instruments as they with some mineralogical and biological specimens, were exhibited in February 1949 It is more valuable, however as contribution to the history of science and science teaching in America. The actual description of the various pieces of apparatus is preceded by discussion of how such instruments were obtained and the manner of their use in teaching and research during the colonial period.

COHEN, I. BERNARD AND FLETCHER G WATSON, editors

General education in science. With a foreword by James Bryant Conant. Cambridge Harvard University Press, 1952 217 p. 22 cm. $4.00 10

Contents: Science for the nonscientist Science and the layman, by E. J. Dubos. General education and special education in the sciences, by E. J French. The assimilation of science into general education, by P. B. Sears. The philosophy of science and the teaching of science: The role of philosophy in general education course in physical science, by E. C. Kemble. What teachers of general education courses in the sciences should know about philosophy by P Frank. The history of science and the teaching of science: The history of science and the teaching of science, by I. B. Cohen. The use

of historical cases in science teaching, by L. K. Nash. Acquiring knowledge of the history of science, by F G. Kilgour The sciences in technical civilization: Applications of science and the teaching of science, by P Le Corbeiller. What the layman needs to know about science, by S. A. Goudsmit. Education for citizenship in technical civilization, by E. C. Fuller. Some problems in the teaching of biology: An approach to the teaching of biology to nonscientists, by E. S. Castle. The general education course in biology—laboratory work and general objectives, by G. E. Erikson. The evaluation problem: Can general education courses in the sciences be evaluated? by H. S. Dyer. What the instructor can do about evaluation—techniques and examples, by F G. Watson.

Note: Papers which were originally presented at the Workshop in Science in General Education held at the Harvard Summer School in July 1950, are collected in this volume. Their purpose cannot be described better than in the words of Dr Conant "A major educational problem that now confronts those concerned with teaching science is how to start the student down road that will insure his arriving at some degree of scientific literacy even though he devotes his college years to the study of some nonscientific subject. This is problem to which the papers collected in this volume are primarily addressed.

COLEMAN, HARRY SHIPP editor

Laboratory design National Research Council report on design construction and equipment of laboratories. With an introduction by Roland Wank. New York Reinhold Publishing Corporation 1951 393 p. illus. 30 cm. $12.00 11

Contents (abridged) Part 1. Materials, facilities, services and equipment—general discussions: Introduction, by R. A. Wank. Interior construction materials, by E. M. Jenkins. Plumbing, by J. E. York. Laboratory lighting, by J. L. Tugman. Electric power by J. H. Eagan. Laboratory ventilation, by W C. L. Hemeon. Safety precautions, by F A. Van Atta. Part 2, Teaching laboratories: Site selection, design and construction, by H. F Lewis. The general science building, by W A. Manuel. The analytical chemistry laboratory by E. J. Meehan. The organic chemistry laboratory by C. D. Hurd. The physical and electrochemical laboratory by L. O. Case. Biochemical and related laboratories, by A. A. Christman. The chemical engineering laboratory by C. C. Winding. The metallographic laboratory by R. C. Ernst and G. C. Williams. Part 3, Industrial laboratories: Details and description of an analytical control laboratory, by R. L. Clarke and others. Metallurgical laboratories, by H. K. Work. Animal rooms and equipment, by C. P Carpenter. Industrial laboratories for physical measurements, by H. F Kling. The design of laboratories for the safe handling of radioisotopes, by M. R. Hawkins. Constant-temperature-humidity rooms, by M. E. Dunlap. High-pressure laboratories, by R. L. Savage. Pilot plant laboratories, by W L. Faith. Part 4, Concise descriptions of some modern laboratories: Illinois Institute of Technology Laboratory by M. Kilpatrick. Reed College Laboratory by A. F Scott. Battelle Memorial Institute research buildings, by W A. Welcker jr Mellon Institute research laboratories, by H. S. Coleman. Bell Telephone Laboratories, by C. S. Fulton. Johns-Manville Research Center, by E. M. Jenkins. Esso Research Center—Industrial Laboratory by W R. Hunt. B. F Goodrich Research Center, by D. H. Cornell. Selected bibliography Index.

Note: An authoritative and comprehensive reference book on modern teaching and research laboratories. The book is of interest to all scientists whose work includes responsibility for laboratory organization or direction and to engineers and architects interested in the design and construction of laboratories. The descriptions of specific modern laboratories in the fourth part are brief but they are supplemented by many excellent pictures.

CONANT, JAMES BRYANT

Modern science and modern man New York. Columbia University Press, 1952 111 p. 21 cm. (Bampton lectures in America. Number 5) $2.25 12

Contents: Science and technology in the last decade. The changing scientific scene, 1900–1950. Science and human conduct. Science and spiritual values.

Note: A book presentation of the four Bampton lectures delivered at Columbia University in 1952. In it the author outlines the fundamental changes which have occurred in scientific knowledge since 1900, then discusses the philosophical and spiritual implications of this new insight into the nature of the universe. *Although of interest to scientists,* the book is addressed more to educated people in other fields.

CONANT, JAMES BRYANT

Science and common sense. New Haven Yale University Press 1951 271 p. 21 cm. $4.00 13

Contents: Science and the American citizen. What is science? Concerning the alleged scientific method. The development of the concept of atmospheric pressure. Some recurring patterns in experimental inquiry Geometrical reasoning and quantitative experimentation. The origin of conceptual scheme the chemical revolution. The study of living organisms: natural history and experimental biology Experiment and observation in biology: Illustrations from the controversy concerning spontaneous generation. The study of the past. The impact of science on industry and medicine. Science, invention, and the state. Bibliography Index.

Note: The author's *On understanding science* (1947) was primarily proposal for new program of teaching the meaning of science to college students preparing for work in law journalism, and other non-scientific fields. The present book is addressed to the lay reader and, although some material from *On understanding science* has been included, the pedagogy has been left out. The subject is mainly "the tactics and strategy of science, and the discussion includes accounts of "case histories, such as Boyle's experiments with atmospheric pressure, Roentgen's discovery of X-rays, etc. In the last two chapters the author turns to the social aspects of modern science, showing that science is major and essential part of the present-day social fabric.

DE VRIES LOUIS

French English science dictionary for students in agricultural, biological and physical sciences with a supplement of terms in aeronautics electronics radar radio television. Second edition. New York McGraw Hill Book Company Inc., 1951 596 p. 19 cm. $6.50 14

Note: (11a) A standard reference book in which is contained well-chosen selection of terms from several scientific fields and also some terms from the literary language. The first edition appeared in 1940. Except for the correction of few errors, the text of the present edition is the same to the end of page 533. However supplement of aeronautical, electronic, and communications terms—which runs from page 535 to page 584—has been added.

KNAPP, ROBERT HENRY AND H. B GOODRICH

Origins of American scientists a study made under the direction of a committee of the faculty of Wesleyan University Chicago, Illinois The University of Chicago Press, 1952 450 p. illus. 25 cm. $7.50 15

Contents (abridged) The undergraduate origins of American scientists. The indexes of production of scientists. The design of the statistical study The analysis of the college sample. The analysis of the university sample. The design of the case study Four institutions of broad intellectual emphasis: Reed, Swarthmore, Oberlin, and Antioch. Five men's liberal arts colleges: Amherst, Haverford, Wabash, Wesleyan, and Williams. Western liberal arts colleges of distinguished performance Central, Colorado, Cornell, Earlham, Kalamazoo, Marietta, and Whitman. Two prosperous colleges of superior achievement: Pomona and DePauw Two colleges of minority constituency: Hope and St. Olaf. Two liberal arts colleges of special interest Iowa Wesleyan and Linfield. The statistical analysis of departmental ratings. The distinguished teacher. Summary of findings. Speculations and interpretations. Conclusion. Appendices. General index. Index of institutions.

Note: The findings of systematic study of the educational origins of American scientists and of other factors which led them to choose scientific careers are reported in this book. It is based on statistical assessment of the records of 490 universities and colleges in the production of scientists. Twenty-two selected liberal arts colleges—named in the chapter titles—were the subjects of special study and firsthand investigation. The study was conducted under the joint sponsorship of the Carnegie Foundation and Wesleyan University under the direction of the Committee on Education of Scientists of Wesleyan.

NATIONAL RESEARCH COUNCIL

Scientific, medical and technical books published in the United States of America, a selected list of titles in print with annotations. Supplement of books published 1945–1948 Edited by R. R. Hawkins prepared under the direction of the National Research Council's Committee on Bibliography of American Scientific and Technical Books. Washington, D C. National Research Council, 1950 514 p 30 cm. $10 00 16

Contents: Science. Mathematics. Astronomy Physics. Meteorology Chemistry Geology Oceanography Biology. Botany Zoology Man. Human anatomy Physiology Biochemistry Bacteriology Medicine. Gynecology and obstetrics. Surgery Dentistry Industrial medicine. Public health. Nursing. Hospitals. Personal hygiene and first aid. Psychosomatic medicine. Psychiatry Mental hygiene and popular psychiatry Psychology Engineering. Civil engineering. Sanitary engineering. Mechanical engineering. Electrical engineering. Communications engineering. Chemical engineering. Applied chemistry Heat and power engineering. Mining engineering. Metallurgy and metallography Shipbuilding and boat building. Marine engineering. Navigation. Aeronautics. Photography Food technology Miscellaneous technology Industrial management. Agriculture. Forestry Forest products. Firearms. Military science. Naval science. Directory of publishers. Author index. Subject index.

Note. More than 2500 books, issued by about 275 publishers, are described in this classified bibliography The descriptions include not only the usual bibliographical information, but also publisher's price, table of contents, and a supplementary annotation. Only works of citizens and residents of the United States and Canada are included, and the books of Canadian authors have been listed only when published in the United States. The series now includes the original volume which covered books published 1930–1944 the supplement here described, and the second supplement in hand.

PERSONS STOW, editor

Evolutionary thought in America. New Haven Yale University Press 1950 462 p illus 24 cm. $5 00 17

Contents: Part I, The theory of evolution: The rise and impact of evolutionary ideas, by E. Stoon. Evolution in its relation to the philosophy of nature and the philosophy of culture, by F S. C. Northrop. The genetic nature of differences among men, by T Dobzhansky *Part II, Evolutionary thought in America* Evolution and American sociology by R. E. L. Faris. The impact of the idea of evolution on the American political and constitutional tradition, by E. S. Corwin. Evolutionism in American economics, 1800–1944, by J J Spengler The influence of evolutionary theory upon American psychological thought, by E G. Boring Naturalism in American literature, by M. Cowley The idea of organic expression and American architecture, by D D Egbert. Evolution and moral theory in America, by W F Quillian, Jr. Evolution and theology in America, by S. Persons. Index.

Note A collection of original papers which were prepared for delivery at Princeton University during the academic year 1945–46 as part of its special program in American civilization. Although the treatment is on an upperclass undergraduate level, the book as a whole presents an authoritative and well rounded picture of its subject and, therefore, merits reading by persons outside of colleges who are interested in the impact of science on social thought or upon the history of organic evolution. Bibliographical citations and scholarly notes accompany most of the chapters.

POOLE, LYNN

Science via television Baltimore The Johns Hopkins Press 1950 198 p illus. 23 cm. Paper $2 00 18

Contents: Science—via television. The master plan. Participants. Selecting the subject. Developing the theme. Choosing the visual material. Writing the script. The opening and the closing. Setting the stage. Camera angles. Rehearsing the program. How it was done. *Outline of programs.* Glossary of tele-terms. Books on television. Television magazines. Index.

Note. A valuable book from two viewpoints. It presents in careful detail the multitudinous problems of preparing and presenting an educational program on television; second, it demonstrates how successful series of telecasts devoted to science—the Johns Hopkins Science Review—was developed, written, directed, rehearsed, and broadcast. The material included ranges from script writing and format to discussions of very specialized points, such as precautions to be taken when it is necessary to include glass objects in televised scenes.

POOLE, LYNN

Today's science and you. Illustrated by Jeanne Bendick. New York Whittlesey House, McGraw Hill Book Company Inc., 1952 208 p illus. 21 cm. $2 75 19

Contents: Today's scientists and you. X-ray the sleuth. The magnificent microscope. Higher and higher 100,000 miles to go with. An industrial headache. Schistosomiasis. No one wants flies. Human engineering. What is an isotope? Trace elements. X disease. Bronze disease. Is there science in art? Key to the past. Who knows? Index.

Note: A popular book based on the *Johns Hopkins Science Review* television program which received the Peabody Award in 1951. Although the book is good reading for the layman who wants to know something about current activities of scientists, it is more important as a pioneer example of the interpretation of scientific achievements via a new medium—television. Recent scientific developments and research in progress in a variety of fields such as television and atomic physics are discussed in elementary language so as to reveal the significance of the scientific method in contemporary living.

THE SCIENTISTS LOOK AT OUR WORLD. By W V Houston W Albert Noyes Jr., Curt Stern Alan Gregg, Wendell H. Camp. Introduction by John M. Fogg Jr Philadelphia University of Pennsylvania Press 1952 147 p. 22 cm. (The Benjamin Franklin Lectures of the University of Pennsylvania) $3 00. 20

Contents: Introduction, by J M. Fogg, Jr. Description of the physical world, by W V Houston. The varied uses of chemistry by W A. Noyes, Jr. Genetics and the world today by C. Stern. The true extravedness of medicine, by A. Gregg. Plant sciences in the world today by W H. Camp.

Note. Five stimulating lectures, first delivered as the 1951 series of Benjamin Franklin Lectures at the University of Pennsylvania, are printed in this book. Developments, which are still of fundamental significance, and the social importance of current science are emphasized to some extent but, in general, each essay is an interesting account of selected facets of a major branch of science. The style is non-technical.

TRELEASE SAM FARLOW

The scientific paper how to prepare it, how to write it a handbook for students and research workers in all branches of science. Second edition Baltimore The Williams & Wilkins Company 1951 163 p. illus. 19 cm. $2.50 21

Contents. The research problem. Writing the paper. Good form and usage. Tables. Illustrations. Prepublication review. Proofreading. Bibliography. Index.

Note. (19') A relatively brief but useful book of guidance and practical information for those who must write scientific papers and reports. Actually this is the fifth edition since three earlier editions appeared under the title *Preparation of scientific and technical papers* and one under the present title. Again, the book has been reorganized and substantially revised. Revision is most apparent in such parts as the "List of Index and abstract tools"; but in many other parts, sentences and paragraphs have been rewritten and amplified.

UNITED STATES LIBRARY OF CONGRESS. NAVY RESEARCH SECTION

Scientific personnel. A bibliography, compiled by Mabel H. Eller and Jack Weiner

Edited by Barton Bledsoe. Prepared for the Office of Naval Research. Washington The Library of Congress, 1950 164 p. 26 cm. Paper, $1 15 22

Note: A selected, unannotated bibliography of literature published 1930-1948 inclusive. There are 1746 items arranged alphabetically by name of author The subject index is detailed and includes a number of subheadings, for instance, "Engineering education—accelerated program," which add considerably to the usefulness of the list.

UTINOMI, HUZIO

Bibliography of Micronesia (Bibliographia Micronesica scientiae naturalis et cultus) Compiled by Huzio Utinomi. Translated by Mitsuno Fukuda and others. Edited and revised by O A. Bushnell and others. Honolulu, Hawaii University of Hawaii Press, 1952 157 p. 21 cm. $2.50 23

Contents: Editor's preface. Author's preface. Plan of the book. Botany Zoology Geology mineralogy and seismology Limnology Oceanography Geophysics. Medicine. Anthropology and ethnology Geography Publications cited.

Note: The original edition of this bibliography was published in Tokyo in 1944. In that edition articles written in Japanese were cited in Japanese. In this edition all Japanese titles have been translated into English including not only the titles of articles but also the titles of books and periodicals. Titles in Occidental languages have not been translated. The material has been rearranged somewhat and errors that were discovered have been corrected. The work is a comprehensive list of all the scientific writings published about Micronesia to 1944. No new references were added in this edition.

WILSON, EDGAR BRIGHT JR.

An introduction to scientific research. New York McGraw-Hill Book Company Inc., 1952 375 p. illus. 24 cm. $6.00. 24

Contents: The choice and statement of a research problem. Searching the literature. Elementary scientific method. The design of experiments. The design of apparatus. The execution of experiments. Classification, sampling, and measurement. The analysis of experimental data. Errors of measurement. Probability, randomness, and logic. Mathematical work. Numerical computations. Reporting the results of research. Conclusion. Index.

Note: The basic knowledge of research methods which a research scientist must possess in order to use his time and experimental material efficiently is outlined in this book. Some of the chapters are very brief; for example, that on searching the literature is only 11 pages long. Some chapters are considerably longer; the one on the design of apparatus being nearly 60 pages long. Even so, the reader is told how to go about designing apparatus rather than how to design it. All of the chapters are equipped with excellent selected bibliographies. The book is well organized and is written in a style which is easy to read. Beginning research scientists will find it invaluable and experienced ones may profit from reading at least some sections.

HISTORY

CONANT JAMES BRYANT general editor

Robert Boyle's experiments in pneumatics. Edited by James B Conant. Cambridge Harvard University Press 1950 70 p illus. 23 cm. (Harvard case histories in experimental science. Case 1) Paper $1 10 25

Contents (abridged): The air pump or vacuum pump as a new scientific instrument The behavior of a Torricellian barometer in vacuum. Boyle's experiments on air as a medium for transmitting sound. The discovery of Boyle's law Notes on the development of science in the middle of the seventeenth century

—— The overthrow of the phlogiston theory the chemical revolution of 1775–1789 Edited by James B Conant. Cambridge Harvard University Press, 1950 59 p illus. 23 cm. (Harvard case histories in experimental science. Case 2) Paper $1.00 26

Contents (abridged): The opening phase of the chemical revolution. English translation of the two versions of the Easter memoir of Lavoisier. Priestley's comment on Lavoisier's Easter memoir. The steps leading to Priestley's discovery of oxygen. The final collapse of the phlogiston theory

—— The early development of the concept of temperature and heat the rise and decline of the caloric theory Prepared by Duane Roller Cambridge Harvard University Press, 1950 106 p illus. 23 cm. (Harvard case histories in experimental science. Case 3) Paper $1.50 27

Contents (abridged): Evolution of the thermometer Joseph Black's discoveries of specific and latent heats. Count Rumford's investigation of the weight ascribed to heat. Count Rumford's experiments on the source of the heat that is excited by friction. Humphry Davy's early work on the production of heat by friction.

—— The atomic-molecular theory By Leonard K. Nash. Cambridge Harvard University Press 1950 115 p. 23 cm. (Harvard case histories in experimental science. Case 4) Paper $1.50 28

Contents (abridged): The application of the atomic theory to chemistry Gay-Lussac's law of combining volumes. The apparent inconsistency of the atomic theory and the law of combining volumes. Avogadro's reconciliation. Sources and references.

—— Plants and the atmosphere. By Leonard K. Nash Cambridge Harvard University Press 1952 122 p. illus 23 cm. (Harvard case histories in experimental science. Case 5) Paper $1.50 29

Contents (abridged): A problem emerges. The problem is brought to a sharp focus by discrediting the facile explanation. Priestley picks up the trail. Ingen-Housz assumes the lead. The evolution of Senebier's theoretical views, 1782–1792. The development of Ingen-Housz's ideas, 1779–1796. De Saussure reviews the data and reconstructs the theories. Bibliography

—— Pasteur's study of fermentation. Edited by James Bryant Conant. Cambridge Harvard University Press 1952 57 p. illus. 23 cm. (Harvard case histories in experimental science. Case 6) Paper $1 00 30

Contents (abridged): Some elementary principles of biochemistry Pasteur's early work on optical activity which resulted in his study of fermentation. Translation of portions of Pasteur's memoir on lactic formation. Theories of fermentation from Liebig to the present day Tyndall's lecture on fermentation.

Note. This series represents a planned effort to make available materials from the history of modern science that illustrate the methods of science. The series is addressed particularly to undergraduate college students who are pursuing courses in the humanities and the social sciences and its primary purpose is to give such students a "feeling" for science that will facilitate the appreciation of science and technology as a segment of the social activity of civilized man. The series is also suitable for reading by laymen with mature interests in the methods and history of science. Each of the booklets in the series contains an analysis of a major scientific development. Extensive use is made of excerpts from the scientists' own accounts of their experiments and hypotheses, but there is also much text written by the editor or author of each booklet. The series is not a mere collection of excerpts or "readings." Some of the booklets contain lists of suggested readings; others, bibliographies of sources.

GUERLAC, HENRY

Science in western civilization, a syllabus. New York The Ronald Press Company 1952 197 p 24 cm. $3 00 31

Note. This exemplary work contains an outline of the development of science in western civilization, set up under the head of 91 lectures. The lectures bear such titles as "The Mesopotamian civilization, Greek medical science, Alchemy and Arabic chemistry "The evolution of the calculus, "Development of the atomic theory and "Science in the United States. For each lecture there is an outline of topics and list of suggestions for reading. A classified list of general references is placed at the end of the volume. The author is Professor of History of Science at Cornell University

NEUGEBAUER, OTTO EDUARD

The exact sciences in antiquity Princeton New Jersey Princeton University Press, 1952 191 p illus. 24 cm. $5 00 32

Contents. List of plates. Introduction. Numbers. Babylonian mathematics. The sources—their decipherment and evaluation. Egyptian mathematics and astronomy Babylonian astronomy Origin and transmission of Hellenistic science. The zodiacal signs. Chronological table. Index.

Note: Although limited chiefly to mathematics and to certain aspects of astronomy this work is an important contribution to the general history of science. It is based on extensive research in source materials. In it new light is shed on the antiquity of some mathematical concepts and on the debt of Hellenistic science to Babylonian and Egyptian science. There are interesting sidelights on archaeology particularly on the scattering or loss of clay tablets after they have been excavated. Each chapter is accompanied by an annotated bibliography and helpful short discussions in the form of notes. The material was delivered originally as "Messenger lectures" at Cornell University in 1949

OEHSER, PAUL HENRY

Sons of science the story of the Smithsonian Institution and its leaders New York Henry Schuman 1949 220 p. illus. 22 cm. $4.00 33

Contents: James Smithson and his will. Interlude. What to do with half million dollars. Joseph Henry builds an institution. Baird and the National Museum. George Brown Goode, the young genius. Samuel Pierpont Langley A geologist takes the helm. Rounding out century Chronology of principal events in Smithsonian history Selected bibliography Index.

Note: By organizing his material around the lives and accomplishments of six men, Joseph Henry Spencer Fullerton Baird, George Brown Goode, Samuel Pierpont Langley Charles Walcott and Charles Greeley Abbot, of whom all but Goode were secretaries of the Smithsonian Institution, the author of this book has produced very readable outline of the history and development of the Smithsonian Institution from its beginning down to the year 1948. The biographical accounts include personal data, such as dates of birth and schools attended, but are largely devoted to activities at the Smithsonian Institution and its affiliated organizations. The narrative material is supplemented by thirty-nine well-chosen illustrations, chronology of outstanding events in the history of the Smithsonian, and selected bibliography

SARTON, GEORGE

A guide to the history of science. A first guide for the study of the history of science with introductory essays on science and tradition Waltham, Mass. Chronica Botanica Company, 1952 316 p. illus. 23 cm. $7.50 34

Contents (abridged) Part I, Introductory essays: Science and tradition. Part II, A first guide for the study of the history of science. A, History: Historical methods. Historical tables and summaries. Historical atlases. Gazetteers. Encyclopedias. Biographical collections. B Science: Scientific methods and philosophy of science. Science and society Catalogues of scientific literature. Union lists of scientific periodicals. General scientific journals. Abstracting and review journals, by C. F Mayer. National academies and national scientific societies. C, History of science: Chief reference books on the history of science. Treatises and handbooks on the history of science. Scientific instruments. History of science in special countries. History of science in special cultural groups. History of special sciences. Journals and serials concerning the history and philosophy of science, by C. F Mayer D Organization of the study and teaching of the history of science: National societies devoted to the history of science. International organization of the history of science. The teaching of the history of science. Institutes, museums, libraries. International congresses. Prizes. Index of proper names.

Note: The first part of this book, which contains lectures titled as indicated in the table of contents, occupies only 66 pages. The rest of the space is devoted to bibliographies of histories of science and related publications and to descriptions of societies, institutes, museums and libraries with special interests or collections of materials bearing on the history of science. Although the bibliographical and directory parts are valuable for reference, the special emphasis on the history of science has resulted in certain weakness that is most apparent in the list of institutes, museums, and libraries. Here number of small institutions (including at least one that has been out of existence for several years) are fully described but larger institutions which possess much more material that is valuable to historians of science are not listed because they do not emphasize the field above other fields of knowledge. The index covers personal names adequately but does not include the names of the congresses, societies, museums, etc., that are described in the book.

SARTON GEORGE

A history of science ancient science through the golden age of Greece. Cambridge Harvard University Press, 1952 646 p illus. 25 cm. $10.00 35

Contents: Part one, Oriental and Greek origins. The dawn of science. Egypt. Mesopotamia. Dark interlude. The dawn of Greek culture—Homer and Hesiod. Assyrian intermezzo. Ionian science in the sixth century Pythagoras. Part two, The fifth century: Greece against Persia—the glory of Athens. Philosophy and science to the death of Socrates. Mathematics, astronomy and technology in the fifth century Geographers and historians of the fifth century Greek medicine of the fifth century chiefly Hippocratic. The Hippocratic corpus. Coan archaeology Part three, The fourth century: Plato and the Academy Mathematics and astronomy in Plato's time. Xenophon. Aristotle and Alexander—the Lyceum. Mathematics, astronomy and physics in Aristotle's time. The natural sciences and medicine in Aristotle's time. Aristotelian humanities and historiography in the second half of the fourth century B. C. Other theories of life and of knowledge—the garden and the porch. Epilogue: The end of cycle. General bibliography Index.

Note. In contrast to the author's well-known *Introduction to the history of science*, this work is designed for reading rather than for reference. Its scope is almost as broad as that of the *Introduction* and the style is as erudite. The content of Greek science is examined in minute detail, and the author points out numerous unexpected relationships. The subject content of the work is such that it will be of interest not only to students of the history of science but also to students of archaeology and anthropology Almost every page contains one or more footnotes which amplify or document points made in the main text. The general bibliography noted in the table of contents is, however, only short list of principal authorities.

MATHEMATICS

GENERAL

BIRKHOFF, GEORGE DAVID

Collected mathematical papers. New York American Mathematical Society 1950. 3 vol. 24 cm. $18 00 36

Note: Professor G. D. Birkhoff, one of the great mathematicians of the first half of the twentieth century published his research papers widely in journals in all parts of the world. These three volumes contain all of his published mathematical work except his published books and certain articles, such as reviews and others, which do not have permanent interest.

HILDEBRAND FRANCIS BEGNAUD

Methods of applied mathematics. New York Prentice-Hall Inc., 1952 523 p illus. 22 cm. (Prentice-Hall mathematics series Albert A. Bennett, editor) $7 75 37

Contents: Matrices, determinants, and linear equations. Calculus of variations and applications. Difference equations. Integral equations. Appendix: The Crout method for solving sets of linear algebraic equations. Answers to problems. Index.

Note: The author has stated that this book is designed to serve as an introduction to "four fields of mathematics which usually are not treated in courses of the 'advanced calculus' type, but which are useful in varied fields of applications. The fields covered are named in the chapter titles. Although intended for readers whose main interests lie in such fields as physics and engineering, mathematics rather than applications are emphasized and proofs are, generally speaking, included. It is suitable for use both as text in graduate courses and self instruction manual for graduate scientists and engineers. A feature which facilitates its use by the latter group is the independent treatment of each method and technique. In other words, it is not necessary to have mastered chapter 1 in order to make use of chapter 3 for instance.

JAMES GLENN AND ROBERT C JAMES, editors

Mathematics dictionary by Armen A. Alchian, Edwin F Beckenbach, Clifford Bell Homer V Craig Glenn James, Robert C James, Aristotle D Michal and Ivan S Sokolnikoff. New York D Van Nostrand Company Inc., 1949 432 p illus. 24 cm. $8 00 38

Note: (72) A standard reference book for mathematicians, students, engineers, and others who use mathematics in their professions. The older editions provided definitions of words and terms in the range beginning with arithmetic and extending through calculus. The new edition adds definitions of the basic terms in the following fields: matrix differential geometry, theory of functions of real and complex variables, advanced calculus, differential equations, theory of groups, theory of matrices, theory of summability point-set topology general analysis, analytic mechanics, and theory of potential. Also included is an extensive coverage of statistical terms Generally speaking definitions are expressed in technical terminology not intended for the uninitiated layman.

KERSHNER, RICHARD B., AND L. R. WILCOX

The anatomy of mathematics. New York The Ronald Press Company 1950 416 p. illus. 23 cm. $6.00 39

Contents (abridged). Language. The development of mathematics. The primitive materials of mathematics. Further materials of mathematics. The postulational method. Groups. The positive integers. Fundamental relations on the positive integers. Extended operations and applications. Infinite sets. Isomorphism and categorical systems of axioms. Equivalence and order relations. The positive rational numbers. One-dimensional continua. Fields. Conclusion. Appendix Suggestions and answers for the projects. Index.

Note The authors describe this book as treatise on the axiomatic method. The hint in the title should also be noted. The two ideas can be combined by stating that in the book certain concepts and methods of proof of abstract mathematics are dissected, and axioms are thereby revealed to be the true anatomy of mathematics. The first six chapters ar largely "non-mathematical" and can be read by any interested person who can follow mature prose. Beginning with chapter seven, the going becomes more strenuous. The readers of the book include advanced students who are preparing to specialize in mathematics and lay readers who pursue mathematics for the pleasure of it.

KUHN HARRY WALDO, AND ALBERT WILLIAM TUCKER, editors

Contributions to the theory of games. Princeton New Jersey Princeton University Press, 1950 201 p. illus. 26 cm. (Annals of mathematics studies. Number 24) Paper $3.00. 40

Contents: Part Finite games: The elementary theory of convex polyhedra, by H. Weyl. Elementary proof of minimax theorem due to von Neumann, by H. Weyl. Basic solutions to discrete games, by L. S. Shapley and R. N Snow Solutions of finite two-person games, by D. Gale and S. Sherman. Solutions of discrete two-person games, by H. F Bohnenblust and others. Solutions of games by differential equations, by G. W Brown and J. von Neumann. On symmetric games, by D. Gale and others. Reductions of game matrices, by D. Gale and others. A simplified two-person poker by H. W Kuhn. A simple three-person poker game, by J F Nash and L. S. Shapley Isomorphism of games and strategic equivalence, by J. C. C. McKinsey Part II, Infinite games: Operator treatment of minimax principle, by S. Karlin. On theorem of Ville, by H. F Bohnenblust and S. Karlin. Polynomial games, by M. Dresher and others. Games with continuous, convex pay-off, by H. F Bohnenblust and others. Bibliography

Note. A collection of original contributions to the mathematical theory of games of which *Theory of games and economic behavior* by J. von Neumann and O. Morgenstern is the landmark work. All but two of the papers are restricted to zero-sum two-person games. The current status of the theory of games and of the problems still unsolved is outlined in the book's preface.

MAZIARZ, EDWARD A.

The philosophy of mathematics. New York Philosophical Library 1950 286 p 21 cm. $4.00 41

Contents: Introduction: The problem of the philosophy of mathematics. Part I, The history of the philosophy of mathematics: The historical relation between mathematics and philosophy Ancient conceptions. The Cartesian era. British empiricism. Idealism and positivism. Contemporary directions. Part II, The philosophy of mathematics: The distinction of speculative sciences. The nature of mathematical abstraction. Mathematical abstraction and contemporary mathematics. Conclusion. Bibliography Index.

Note: A critical study of the origins and purposes of mathematical thinking in relation to man's other activities. In the first part, which occupies about half of the volume, the views of great mathematicians and philosophers on the subject are digested and discussed. In the second part the author attempts philosophy of mathematics of his own. The book is of interest chiefly to students

of the philosophy of mathematics and the philosophy of science in general. It was prepared originally as a doctorate thesis, and it is liberally equipped with literature citations and supplementary notes.

RIDER, PAUL REECE

First-year mathematics for colleges. New York The Macmillan Company 1949 714 p illus. 22 cm. $5 00 42

Contents: Review of elementary algebra. Factoring. Fractions. Rectangular coordinates. Functions and graphs. Linear equations. Exponents and radicals. Quadratic equations. Inequalities. Systems of equations involving quadratics. Proportion and variation. Mathematical induction and the binomial formula. Progressions. Approximate numbers and computation. Logarithms. Logarithmic and exponential curves. Power functions and their graphs. Mathematics of investment. Trigonometric functions of acute angles. Solution of right triangles. Logarithmic solution of right triangles. Trigonometric functions of any angle. Solution of oblique triangles. Trigonometric formulas and identities. Radian and mil. Trigonometric curves. Inverse trigonometric functions and curves. Trigonometric equations. Complex numbers. Polynomials. Theory of equations. Equation and locus. Straight line. Circle. Parabola, ellipse, hyperbola. Curve sketching. Parametric equations. Polar coordinates. Curve fitting. Permutations and combinations. Probability. Determinants. Partial fractions. Infinite series. Rectangular coordinates and directions in space. Plane and line. Surfaces and curves. Tables. Index. Answers to odd-numbered exercises.

Note The wide scope of this book is obvious from the chapter titles. The author has designed it for use by both liberal arts and engineering students. An exceptionally full index makes the book useful for occasional reference and personal and public library collections. The author is Professor of Mathematics in Washington University

SHANNON CLAUDE ELWOOD AND WARREN WEAVER

The mathematical theory of communication Urbana The University of Illinois Press 1949 117 p illus. 24 cm. $2 50 43

Contents: The mathematical theory of communication, by C. E. Shannon. Recent contributions to the mathematical theory of communication, by W Weaver

Note: Ninety-one of the 117 pages in this book are occupied by the article by Claude E. Shannon which was first published in 1948 in the *Bell telephone technical journal* and is reprinted here essentially unchanged. In this paper the theory is presented for communications engineers. He are concerned with such problems as the message capacities of telephone and other communications channels. The second and much shorter paper extends the concept of communication to include all human behavior and interprets the first paper in this light. The book is of interest both to communications engineers and to social scientists.

WILDER RAYMOND L

Introduction to the foundations of mathematics. New York John Wiley & Sons Inc. 1952 385 p illus. 24 cm. $5 75 44

Contents: Part I, Fundamental concepts and methods of mathematics: The axiomatic method. Analysis of the axiomatic method. Theory of sets. Infinite sets. Well-ordered sets, ordinal numbers. The linear continuum and the real number system. Groups and their significance for the foundations. Part II, Development of various viewpoints on foundations. The early developments. The Frege-Russell thesis—mathematics an extension of logic. Intuitionism. Formalism. The cultural setting of mathematics. Bibliography Index of symbols. Index of topics and technical terms. Index of names.

Note: Essentially this is a book about the nature of modern mathematics. The first part is devoted to the fundamental methods, such as the axiomatic method, and to fundamental concepts, such as that of "set. The second part is a study mainly philosophical, of the nature of this foundation material. Here, the more significant contributions to this aspect of mathematics are reviewed succinctly and critically The book is a development of a course given by the author at the University of Michigan, and is designed primarily as a text. Laymen who pursue the study of mathematics for its cultural value and others who are interested in the meaning of science to society will be interested in at least the final chapters.

HISTORY

BELL, ERIC TEMPLE

Mathematics queen and servant of science. New York McGraw Hill Book Company Inc., 1951 437 p illus 21 cm. $5 25 45

Contents: Points of view Mathematical truth. Breaking bounds. "The same, yet not the same. The art of abstraction. Oaks from acorns. *Pictorial thinking.* Landmarks old and new Groups. A metrical universe. The queen of mathematics. Abstraction and prediction. From Cyclops to Neptune. Two kinds of picture. The chief instrument of applied mathematics. Further calculuses. Waves and vibrations. Choice and chance. "Mocking the heavens. Retreat. Index.

Note: A lively popular account of the history and basic concepts of mathematics. It is not a "mathematics-is-amazingly-simple" popularization, but it is designed for general reading and is so organized and written that the general reader who has a mathematical bent will be inclined to read it to the end. The author has used material from his *The queen of the sciences* (1931) and *The handmaiden of the sciences* (1937) but by revision and amplification, together with reorganization, he has produced what is essentially a new work.

KRAMER, EDNA ERNESTINE

The main stream of mathematics. New York Oxford University Press 1951 321 p. illus. 22 cm. $5 00 46

Contents: Mathematical genesis. Nature, art, and geometry The binding energy of thought. The mathematics of the forbidden. The human equation. Ascent without rockets. The father of modern mathematics and his legacy Science and the sweepstakes. The distaff side. A world in flux. From Alice to Einstein. The realm of relativity The paradise of mathematicians.

Note: The first several pages of this excellent book for lay readers are devoted to the Hindu legend about Lilavati, daughter of Bhaskara, whose name is attached to the Hindu mathematical work in which our number system is first clearly set forth. The last pages are devoted to Zeno's famous paradoxes on motion and the concept of infinity In between there is considerably more narrative than mathematical equations; nevertheless, the development of mathematics is skilfully outlined and some of its major concepts are made as clear as they can be made to the nonmathematical mind.

TABLES

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the Bessel functions of the first kind of orders fifty two through sixty three. Cambridge, Mass. Harvard University Press 1949 544 p. 28 cm. (Harvard University Computation Laboratory Annals. Vol. XII) $8 00 47

—— Tables of the Bessel functions of the first kind of orders sixty four through seventy eight. Cambridge, Mass. Harvard University Press 1949 566 p. 28 cm. (Harvard University Computation Laboratory Annals. Vol. XIII) $8 00 48

—— Tables of the Bessel functions of the first kind of orders seventy-nine through one hundred thirty five. Cambridge, Mass. Harvard University Press 1951 614 p. 28 cm. (Harvard University Computation Laboratory Annals. Vol. XIV) $8.00 49

Note. (54) These volumes bring to completion a series of tables begun in 1947 The tabulations were made on Harvard University's

automatic sequence controlled calculator and are carried to ten decimal places (tables for orders zero to three are carried to eighteen places). The tables are reproduced by offset lithography directly from pages typed by typewriters controlled by the calculating machine, thus avoiding errors that might occur in typesetting. Methods of computation and directions for interpolating are given in the first volume of the series.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the error function and of its first twenty derivatives By the staff of the Computation Laboratory Cambridge Harvard University Press, 1952 276 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. XXIII) $8 00 50

Contents: Introduction: The error function and its derivatives. Computation of the tables. Applications. Zeros of the derivatives. Table I: $\phi^{(-1)}(x) - \phi^{(4)}(x)$ for values of the arguments from 0.000 to 4.444 at intervals of 0.004. Table II: $\phi^{(5)}(x) - \phi^{(9)}(x)$ for values of the arguments from 0 000 to 5.216 at intervals of 0.004. Table III: $\phi^{(10)}(x) - \phi^{(15)}(x)$ for values of the arguments from 0.000 to 8.616 at intervals of 0.002. Table IV: $\phi^{(16)}(x) - \phi^{(20)}(x)$ for values of the arguments from 0.000 to 10.902 at intervals of 0.002.

Note: This volume is a series sponsored by the U. S. Air Force in tabulation of the error function $\phi^{(-1)}(x) = \frac{1}{\sqrt{2\pi}}\int^{x} e^{-t^2/2}dt$ and its derivatives. The Automatic Sequence Controlled Calculator was used for this work, and it is believed that the error in any tabular value is less than six units in the first place not printed. Examples of the application of the error function in statistics and probability physics, and noise and communication problems are given.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the function $\frac{\sin \phi}{\phi}$ and of its first eleven derivatives. By the staff of the Computation Laboratory Cambridge Harvard University Press, 1949 241 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. XXII) $8.00 51

Contents: Introduction—Computation of the tables—applications. The tables.

Note: "The values of the function $g(\phi) = \frac{\sin \phi}{\phi}$ and its first eleven derivatives have been tabulated in this volume to nine decimal places for values of ϕ from 0 to 20π radians. The present tables of the basic function (ϕ) are more extensive in range, accuracy and density than any previous tables. The tables are useful in the solving of problems connected with the Fourier transforms of distribution functions. They were prepared on the Automatic Sequence Controlled Calculator at the request of the United States Air Force.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the generalized exponential-integral functions. By the staff of the Computation Laboratory Cambridge Harvard University Press, 1949 416 p 27 cm. (Harvard University Computation Laboratory Annals. Vol. XXI) $8 00 52

Contents. Introduction: The generalized exponential-integral functions. Computation of the tables. Interpolation. Applications. The generalized exponential-integral functions: Table I, For values of the arguments from 0.000 to 0.049 at intervals of 0 001 Table II, For values of the arguments from 0.000 to 0.098 at intervals of 0.002. Table III, For values of the arguments from 0.000 to 0 245 at intervals of 0 005. Table IV For values of the arguments from 0.00 to 0.49 at intervals of 0.01. Table V For values of the arguments from 0 00 to 0.98 at intervals of 0.02. Table VI, For values of the arguments from 0.00 to 2 45 at intervals of 0.05. Table VII, For values of the arguments from 0.0 to 4.9 at intervals of 0.1. Table VIII, For values of the arguments from 0 0 to 9.8 at intervals of 0.2.

Note: Part of series sponsored by the U. S. Air Force and calculated on the Automatic Sequence Controlled Calculator at Harvard University It contains tabulations of values to six decimal places for the integrals $E(a,x) = \int^{x} \frac{1 - e^{-a\,\cdots}}{\cdots}dx$, $E_s(a,x) = \int^{x} \frac{e^{-a\,\cdots}\sin}{\cdots}dx$, and $E_c(a,x) = \int^{x} \frac{1 - e^{-a\,\cdots}\cos}{\cdots}dx$.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of generalized sine- and cosine-integral functions. Parts I and II. By the staff of the Computation Laboratory Cambridge, Massachusetts Harvard University Press, 1949 2 v illus. 28 cm. (The annals of the Computation Laboratory of Harvard University Vol. XVIII–XIX) $8 00 53

Contents: The generalized sine- and cosine-integral functions. Computation of the tables. Interpolation. Applications. Tables of the functions.

Note. Another work in the series of tables prepared at the request of the United States Office of Naval Research and calculated on *Harvard University's automatic sequence controlled calculator.* The tabulations are carried to six decimal places and have wide application in the investigation of problems in such fields as electromagnetics, hydrodynamics, theory of sound, and theory of elasticity

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of inverse hyperbolic functions. By the staff of the Computation Laboratory Cambridge Harvard University Press 1949 290 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. XX) $8.00 54

Contents. Introduction: Contents of the tables. Computation of the tables. Interpolation in the tables. Bibliography of tables of inverse hyperbolic functions. Table The inverse hyperbolic tangent $\tanh^{-1}$ for $0 \leq \; < 1$. Table The inverse hyperbolic sine $\sinh^{-1}$ for $0 \leq \; < 3.5$. Table III The inverse hyperbolic cosine $\cosh^{-1}$ for $1 \leq \; < 3.5$. Table IV: The inverse hyperbolic sine and cosine $\sinh^{-1}$ $\cosh^{-1}$ for $3.5 \leq \; \leq 22{,}980$.

Note: The tables in this volume were calculated on the Automatic Sequence Controlled Calculator at Harvard University and are tabulated to nine decimal places with possible error in the ninth place of not more than 0.6 unit.

SPENCELEY GEORGE WELLINGTON AND OTHERS

Smithsonian logarithmic tables to base e and base 10 Prepared by George Wellington Spenceley Rheba Murray Spenceley and Eugene Rhodes Epperson. Washington, D C. The Smithsonian Institution 1952 402 p 24 cm. (Smithsonian miscellaneous collections. Vol. 118 (whole volume) Publication 4054) $4.50 55

Contents: Preface, by G. W and R. M. Spenceley Introduction, by E. R. Epperson. Logarithms of powers of 10. Table 1 Natural logarithms (to base e) Table 2 Common logarithms (to base 10).

Note: These new logarithmic tables represent an adaptation of Hobel's factorizing method of computing logarithms. A 20 place Hobel table of natural logarithms was used by the compilers in the preparation of their *Smithsonian elliptic functions tables*, 1947 (59*) and these tables are an outgrowth of the preparation of the earlier work. Table 1 presents 23-decimal-place values of the natural logarithms, Table 2 presents 23-decimal-place values of the common logarithms, of XXXX, 1.0*XXXX, and 1.0*XXXX, the range of XXXX being from 1 to 10,000. The compilation of the tables was carried out at Miami University and funds for the publication were granted by the Research Corporation of New York.

TODD JOHN

Table of arctangents of rational numbers Issued March 30 1951 Washington D C. Government Printing Office, 1951 105 p 27 cm. (United States. National Bureau of Standards. Applied mathematics series 11) $1.50 56

Contents: Introduction. Table 1, arctan $\frac{m}{n}$, arccot $\frac{m}{n}$ and reductions of arctan $\frac{m}{n}$ for $0 < m < n \leq 100$. Table 2, Reductions of arctan n, for reducible $n \leq 2089$.

Note: A set of tables of arctangents with rational arguments prepared in response to need for the same, especially in differential equations of importance in many atomic collision problems. Table 1, in addition to $m^2 + n^2$ and arctan (m/n), also gives arccot (m/n). The angles are expressed in radians to 12 decimals and the complete reductions of arctan (m/n) are given for $0 < m < n \leq 100$. Table 2 gives a list of those integers n not exceeding 2089 for which arctan n is reducible and the corresponding complete reductions. The work was done in the Computation Laboratory of the National Bureau of Standards under the partial sponsorship of the Office of Naval Research of the Navy Department.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of the binomial probability distribution. Issued January 27 1950 Washington D C. Government Printing Office 1949 387 p. 27 cm. (United States. National Bureau of Standards. Applied mathematics series 6) $2.50. 57

Contents: Introduction. Table 1, Individual terms $\binom{n}{r}p^r q^{n-r}$ [p = .01(.01).50, q = 1 − p, n = 2(1)49, r = 0(1)n − 1; 7D.] Table 2, Partial sums $\sum_{s=r}^{n} \binom{n}{s}p^s q^{n-s}$ [p = .01(.01).50, q = 1 − p, n = 2(1)49, r = 1(1)n; 7D.]

Note: The binomial (or Bernoulli) distribution, which gives the probability of 0, 1, 2, ... occurrences in n independent trials of an event whose probability of occurrence in any single trial is p, is one of the most important discrete probability distributions, both in the theory of probability and in its applications, particularly in the biological sciences and engineering. The two tables published to seven decimal places in this volume present this distribution in readily available form for the first time. They were prepared for restricted use in mimeographed form by a branch of the United States Army just after the close of World War II. The present edition is a photographic reproduction of the mimeographed tables, somewhat rearranged, with the addition of a foreword and a new introduction.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY

Tables of the Bessel functions $Y_0(z)$ and $Y_1(z)$ for complex arguments. Prepared by the Computation Laboratory Conducted under the sponsorship of the National Bureau of Standards. Arnold N Lowan, Chief The Computation Laboratory New York Columbia University Press 1949 432 p. 27 cm. $7.50 58

Note: (42*) Most of the space in this reference work is devoted to the main table in which "along each of the rays ϕ = 0° 5° ... 90° ten-place values of the real and imaginary parts of $Y_0(z)$ are given for values of (z) ranging from 0 to 10 at intervals of .01. The book is a companion volume to United States. National Bureau of Standards. Mathematical Tables Project, *Table of the Bessel functions $J_0(z)$ and $J_1(z)$ for complex arguments*, second edition, 1947

UNITED STATES. NATIONAL BUREAU OF STANDARDS. COMPUTATIONAL LABORATORY

Tables of Bessel functions of fractional order Volume II. Prepared by the Computation Laboratory of the National Applied *Mathematics Laboratories National* Bureau of Standards. New York Columbia University Press 1949 365 p illus. 28 cm. $10.00 59

Contents (abridged) Introduction to volume II. Constants. Tables of $I_\nu(x)$. Tables of $e^{-x}I_\nu(x)$. Everett interpolation coefficients. Table of $L_\nu(x)$—for interpolating in the ν-direction.

Note: (46*) These tables give functional values to ten decimal places of $I_\nu(x)$ for $\pm\nu$ = 1/4, 1/3, 2/3, 3/4, with a range of 0 to 25 for x. Values of $J_\nu(x)$ for the same orders were given in volume I published in 1948. The tabulations have value in the solution of problems in such fields as elasticity heat conductivity and hydrodynamics.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY

Tables of the confluent hypergeometric function $F(\frac{n}{2}, \frac{1}{2}, x)$ and related functions. Issued January 21 1949 Washington D C. Government Printing Office, 1949 73 p illus. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 3) Paper $0.35 60

Contents: Introduction. Interpolation charts. Table of $F\left(\frac{n}{2}, \frac{1}{2}, x\right)$. Table of $F\left(\frac{n}{2}, \frac{1}{2}, x\right) / \cosh\sqrt{(2n-1)x}$. Table of $\log_e F\left(\frac{n}{2}, \frac{1}{2}, x\right) / \sqrt{2nx}$.

Note: Tabulated in this publication for a = 1/2 and for a wide range of values of n and x is a simple transformation of the confluent hypergeometric function F(a, γ, x). The tables are an outgrowth of a tabulation prepared at the request of the Statistical Research Group of Columbia University for the purpose of facilitating the construction of the sequential t-test.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY

Tables of the exponential function e^x prepared by National Bureau of Standards Computation Laboratory Issued June 29 1951 (supersedes MT2 second edition) Washington D C Government Printing Office, 1951 537 p. 27 cm. (United States National Bureau of Standards Applied mathematics series 14) $3.25 61

Contents: Introduction. Bibliographic notes. Ascending exponentials [0.0000(0.0001)1.0000; 18D] Ascending exponentials [1.0000(0.0001)2.5000; 15D] Ascending exponentials [2.5000(0.001)5.000; 12D] Ascending exponentials [5.00(0.01)10.00; 12D] Descending exponentials [0.0000(0.0001)2.5000; 18D] Ascending and descending exponentials [0.000000(.000001)0.000100; 18D] Ascending and descending exponentials [1(1)100; 19S] Ascending and descending exponentials at decimal intervals from 1 × 10^{-10} to 9 × 10^{-1}; 18D. Values of e and 1/e; 2556D.

Note: The third edition of a set of tables useful to a range of computations in mechanics, the kinetic theory of matter, quantum mechanics, electricity magnetism, statistical mechanics, chemical kinetics, theory of probability or mathematical statistics. The work is for the most part a page-for-page reproduction of the tables given in the first and second editions. In this edition several misprints have been corrected, and the values of e and of 1/e to 2556 decimal places have been added.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY

Table of sines and cosines to fifteen decimal places at hundredths of a degree. Issued May 2 1949 Washington D C. Govern

ment Printing Office, 1949 95 p. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 5) Paper, $0 45 62

Contents: Introduction. Table of sine and cosine $x = [0°(0.01°)90°; 15D]$ Supplementary table I, of sine and cosine $x = [1°(1°)90°; 30D]$ Reprinted from Herrmann. Bestimmungen der trigonometrischen Functionen aus den Winkeln und der Winkel aus den Functionen, bis zu einer beliebigen Grenze der Genauigkeit. *Kaiserliche Akademie der Wissenschaften, Wien, Mathematisch-naturwissenschaftliche Classe, Sitzungsberichte* 1 pt. IV p. 164–180 (1848). Supplementary table II, table of $E(p)$ and $F(p)$ $p = [0(.001)1; 8D]$

Note: Trigonometric tables with decimal subdivision of the degree are of great convenience in numerous problems of applied mathematics. The present volume, to meet the need for such tables, provides a tabulation of the sine and cosine to 15 decimal places at intervals of one-hundredth of a degree. The work was done with the financial support of the Office of Naval Research of the Navy Department.

UNITED STATES. NATIONAL BUREAU OF STANDARDS. COMPUTATION LABORATORY

Tables relating to Mathieu functions characteristic values, coefficients, and joining factors. Prepared by the Computation Laboratory of the National Applied Mathematics Laboratories National Bureau of Standards. New York Columbia University Press, 1951 278 p illus. 27 cm. $8.00 63

Contents: Introduction. Graphs of $be_r(s)$ and $bo_r(s)$. Bibliography Constants. Table of characteristic values $be_r(s)$. Table of characteristic values $bo_r(s)$. Table of coefficients $De_r(s)$. Table of coefficients $Do_r(s)$. Table of joining factors. Values of $Ez(p)$ and $Fz(p)$ $p = [0(.001)1; 7D]$ Values of $\frac{1}{2}p(1-p)$. Sines and cosines $[0(1°)90°]$ Multiples of $\frac{1}{2}\pi$.

Note: A reference book of tables compiled by the laboratory mentioned in the book's title. The tables are considerably more comprehensive than those available hitherto.

CALCULATING MACHINES

BERKELEY, EDMUND CALLIS

Giant brains or machines that think. New York John Wiley & Sons Inc., 1949 270 p. illus. 22 cm. $4.00 64

Contents: Can machines think? Languages. A machine that will think. Counting holes. Measuring. Accuracy to 23 digits. Speed—5,000 additions a second. Reliability—no wrong results. Reasoning. An excursion. The future. Social control. Supplements. Index.

Note: A well-written popular book. Not only does it explain the *principles of such bewildering machines as Harvard's IBM Automatic* Sequence-Controlled Calculator, the Electronic Numerical Integrator and Calculator (ENIAC) and the Kalin-Burkhart Logical-Truth Calculator but it conveys also a sound idea of the principles of calculation by machine and of what may be accomplished by machine calculators and by related ideas such as automatic stenographers and translators. It is written for general reading, but it is not a superficial popularization. To grasp all of it, the lay reader will have to apply himself about as vigorously as in comprehending a text in elementary algebra. A useful feature for serious students and librarians is an extensive, organized bibliography

ENGINEERING RESEARCH ASSOCIATES INC.

High-speed computing devices. Supervised by C. B Tompkins and J H. Wakelin. Edited by W W Stifler jr New York McGraw-Hill Book Company Inc. 1950 451 p. illus. 24 cm. $7.00 65

Contents: Part I, The basic elements of machine computation. Introduction. Preliminary considerations. Counters as elementary components. Switches and gates. A functional approach to machine design. Arithmetic systems. Numerical analysis. Part II, Computing systems: Desk calculators. Punched-card computing systems. Large-scale digital computing systems. Analog computing systems. The form of a digital computer. Part III, Physical components and methods: Arithmetic elements. Transfer mediums. Data-conversion equipment. Special techniques and equipment for possible use in computing systems. *Factors affecting choice of equipment.* Index.

Note: A survey of the principles, chief components, and applications of mechanical and electronic computing machines. It is written largely from the viewpoint of engineers and scientists interested in these machines from the standpoint of design or applications. The concise final chapter on choosing computing equipment is of potential interest to business and laboratory executives. The book is well organized and well written. A fair amount of familiarity with technical and mathematical concepts is essential to understanding it, but it is by no means a specialist's book. It was prepared originally under an Office of Naval Research contract.

HARTREE DOUGLAS RAYNER

Calculating instruments and machines. Urbana University of Illinois Press 1949 138 p. illus. 27 cm. $4.50 66

Contents: Introduction. The differential analyzer. The differential analyzer and partial differential equations. Some other instruments. Introduction to large automatic digital machines. Charles Babbage and the analytical engine. The first stage of development. Projects and prospects. High-speed automatic digital machines and numerical analysis. References. Name index. Subject index.

Note: Not as general in scope as the title indicates, this book is nevertheless a useful introduction to present-day automatic calculators. Desk machines and conventional punch-card devices are not included, but the principles of analog machines and digital computers are explained clearly. The operating principles of the Harvard Mark I Calculator and of the Edsac are described in some detail. The book originated as a series of lectures delivered at the University of Illinois in the fall of 1948. There is a bibliography of 122 references.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Description of a magnetic drum calculator By the staff of the Computation Laboratory Cambridge, Mass. Harvard University Press, 1952 318 p. illus. 27 cm. (Harvard University *Computation Laboratory Annals.* Vol. xxv) $8 00 67

Contents: Organization of the calculator. Basic circuits. Storage system. Arithmetic units. The elementary functions. Numerical *input and output devices. Sequencing and control. Instructional* tape preparation table. Operation of the calculator. Problem preparation *and solution of typical examples.* Appendixes: Constants in fast storage. List of codes. Index.

Note: Various aspects of the construction, theory and operation of an electronic digital calculator employing magnetic drums and magnetic tape for the storage of numerical and instructional information are discussed in this work. The book is a rather specific description of the Mark III Calculator built by Harvard University for the Bureau of Ordnance of the United States Navy. However it is of general interest to mathematicians and other scientists who are interested in either the construction or applications of such machines. There are numerous illustrations.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Proceedings of a second symposium on large-scale digital calculating machinery Jointly sponsored by the Navy Department *Bureau of Ordnance* and *Harvard University* at the Computation Laboratory 13–16 September 1949 Cambridge, Mass. Harvard University Press, 1951 393 p. illus. 27 cm. (The Annals of the Computation Laboratory of Harvard University Vol. 26) $8 00 68

Contents (abridged). The Mark III calculator, by B. L. Moore. The Bell computer Model VI, by E. G. Andrews. An electrostatic memory system, by J. P Eckert, jr The Raytheon electronic digital computer, by R. M. Bloch. Semiautomatic instruction on the Zephyr, by H. D. Huskey. Static magnetic delay lines, by W D.

Wee. Coincidence tubes for use with electrostatic storage tubes, by R. S. Julian and A. L. Samuel. Electrochemical computing elements, by J. R. Bowman. Logical syntax and transformation rules, by G. W. Patterson. Mathematical methods in large-scale computing units, by D. H. Lehmer. Numerical methods associated with Laplace's equation, by W. E. Milne. An iteration method for the solution of the eigenvalue problem of linear differential and integral operators, by C. Lanczos. On the Monte Carlo method, by S. M. Ulam. Double refraction of flow and the dimensions of large asymmetric molecules, by H. A. Scheraga and others. Computational problems in nuclear physics, by H. Feshbach. Computing machines in aeronautical research, by R. D. O'Neal. A statistical method for certain nonlinear dynamical systems, by G. R. Stibitz. Combustion aerodynamics, by H. W. Emmons. Application of computing machinery to research in the oil industry, by M. Muskat. Application of computing machinery to the solution of problems of the social sciences, by F. Mosteller. Computational aspects of certain econometric problems, by H. Chernoff. The selectron, by J. Rajchman. Traits caractéristiques de la calculatrice de la machine à calculer universelle de l'Institut Blaise Pascal, by L. Couffignal. The future of computing machinery, by L. N. Ridenour.

Note: Altogether there are in this volume 39 original papers, classified under such headings as "Recent developments in computing machinery," "Numerical methods," "Computational problems in physics," and "The economic and social sciences." The authors are scientists and technologists who are closely associated with progress in the field. Most of the papers are short but practically all of them contain valuable information for persons who are interested in either the development or applications of high-speed computers.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Synthesis of electronic computing and control circuits. Cambridge Harvard University Press, 1951 278 p. 24 cm. (Harvard University Computation Laboratory Annals. [no.] XXVII) $8 00 69

Contents: Introduction. Vacuum-tube operators. Switching functions of two and three variables. Switching functions of variables. Minimizing charts. Pyramids and rectangles. Multiple-output circuits. Triggers, rings, and digit counters. Time variables. Rectifiers. Coding systems. Adders and accumulators. Multipliers. Appendix II Switching functions of four variables.

Note In this work the design of electronic circuits for use in computing and controlling mechanisms is treated from the standpoint of fundamental principles. The treatment leans heavily upon algebra, and there are many more mathematical symbols than electronic symbols in the text. However, the main viewpoint is practical. The book will be of primary interest to physicists, mathematicians, and engineers interested in the design of electronic computers. Electrical engineers not working in this field, but whose work includes the design of circuits for industrial electronic equipment, will find it of interest.

JOHNSON LEE H.

The slide rule. New York D Van Nostrand Company Inc. 1949 242 p. illus. 24 cm. $4.00. 70

Contents: Introduction. Multiplication and division. Squares, square roots, cubes, and cube roots. The log log scales. Trigonometric scales. Special operations. The Polyphase and Mannheim slide rules. Table of conversion factors. Answers to problems. Index.

Note: A comparatively full discussion of the use of modern slide rules in the solution of engineering problems. Most of the material has to do with the Duplex rule, but there is also fair amount of material on the Mannheim and Polyphase slide rules. The author's purpose is to teach students and practicing engineers to use their rules rapidly and expertly. He stresses correct handling of the rule, and describes in detail its manipulation in variety of problems. There are 118 figures and many of these consist of several illustrations.

KORN GRANINO ARTHUR, AND THERESA M. KORN

Electronic analog computers (d-c analog computers) New York McGraw Hill Book Company Inc. 1952 378 p. illus. 24 cm. $7.00. 71

Contents. Introduction to d-c analog computers. Practical setup procedure. The application of d-c analog computers to representative practical problems. Theory and design of linear computing elements—operational amplifiers and networks. D-c amplifiers for computer applications. Multiplication and function generation. Auxiliary circuits and computer operation. The design of complete d-c analog-computer installations. Appendix: Some properties of parallel-feedback-type operational amplifiers. Bibliography Author index. Subject index.

Note: Electronic computers are divisible into two main types: (1) digital computers, which are essentially machines that add or subtract in one-by-one fashion but do it very rapidly, and (2) analog computers which are similar in principle to slide rules. Digital computers are usually complicated, expensive, and highly accurate, while analog computers are relatively simple, inexpensive, and less accurate. This is book on the most useful variety of analog computer. It covers the theory of such computers, their proved and some of their potential applications, their main elements, and their design. Somewhat more space is given to design aspects than to uses. The book is for scientists, electronic engineers, and other persons who are familiar with electrical and electronic terminology and principles.

ALGEBRA

BIRKHOFF, GARRETT

Lattice theory Revised edition. New York American Mathematical Society, 1948 283 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXV) $6 00 72

Contents: Partially ordered sets. Lattices. Chains and chain conditions. Complete lattices. Modular lattices. Applications to algebra. Semi-modular lattices. Complemented modular lattices. Distributive lattices. Boolean algebras. Applications to set theory. Applications to logic and probability. Lattice-ordered semigroups. Lattice-ordered groups. Vector lattices. Ergodic theory. Bibliography. Subject index. Author index.

Note The first edition appeared in 1940. In the past fifteen years the new subject of lattice theory has been undergoing rapid development. It has unified and generalized the foundations of algebra, topology projective and affine geometry logic, measure, probability functional analysis, and ergodic theory. It complements group theory to which it is similar in many ways. This second edition contains about twice as much material as the first edition of *Lattice theory*. New topics include, simply ordered sets, the axiom of choice, free lattices, residuated lattices, the algebra of relations, closure algebras, and lattice-ordered groups.

BOROFSKY, SAMUEL

Elementary theory of equations. New York The Macmillan Company, 1950 302 p. 22 cm. $4 50 73

Contents: The complex number system. Polynomials in one variable. Polynomials in the complex domain. Derivatives and multiple roots. Polynomials with real coefficients. Theorems of Budan and Sturm. Approximations to real roots. Cubic and quartic equations. Ruler and compass constructions. Algebraic number fields. Symmetric polynomials. Determinants. Linear equations. Elimination. Appendices. Numerical answers. Index.

Note An introductory work designed to be studied after the student has mastered elementary algebra. The notions of field and polynomial over field are used throughout the exposition, and to simplify the grasp of these concepts, polynomials are defined as functions rather than as elements of rings. The author is member of the faculty of Brooklyn College.

BRINK, RAYMOND WOODWARD

College algebra. Second edition. New York Appleton-Century-Crofts, Inc., 1951 495 p. illus. 22 cm. (The Appleton-Century mathematics series, Raymond W Brink, editor) $3 75 74

Contents (abridged) The fundamental operations. Factoring. Linear equations in one unknown. Functions and their graphs. Exponents and radicals. Quadratic equations. Variation, ratio and proportion. Progressions. Logarithms. The binomial theorem. Complex numbers. Theory of equations. Permutations and combinations. Determinants. Infinite series. The mathematics of investment. Curve fitting and least squares. Index.

Note: A standard text designed to meet the needs of college students who have completed at least one course in algebra in secondary school. The first edition was published in 1931. This edition has been extensively revised and new chapters have been added on real numbers and curve fitting. The author is Professor of Mathematics in the University of Minnesota.

CHEVALLEY, CLAUDE

Introduction to the theory of algebraic functions of one variable. New York American Mathematical Society 1951 188 p 26 cm. (American Mathematical Society Mathematical surveys, No. vi) $4.00 75

Contents: Places and divisors. The theorem of Riemann-Roch. The p-adic completions. Extensions of fields of algebraic functions of one variable. Extensions of the field of constants. Exact differentials. The Riemann surface. Index.

Note. Expositions of the theory of algebraic functions of one variable are more or less bound to lay more emphasis either on the algebraico-arithmetic aspect of the subject or the geometric aspect. This book favors the algebraico-arithmetic approach as originally advanced by Dedekind and Weber and later developed by Hensel and Landsberg. The main difference between the present treatment and earlier ones is that the constants of the fields of algebraic functions to be considered are not necessarily the complex numbers but the elements of a completely arbitrary field. This book includes only the elementary part of the theory. More advanced topics, such as class field theory and the theory of correspondences, have been omitted. However a suitable background of knowledge for the study of these more advanced topics has been provided.

DWYER, PAUL SUMNER

Linear computations. New York John Wiley & Sons Inc. 1951 344 p. 24 cm. (Wiley publications in statistics, Walter A. Shewhart, editor) $6.50 76

Contents (abridged): Computation with approximate numbers. The principles of computational design. The solution of simultaneous equations with the method of multiplication and subtraction. The method of multiplication and subtraction with (exact) division—method of determinants. The solution of equations with approximate methods. Relations between the coefficients. The evaluation of determinants and determinantal ratios. The evaluation of linear forms. An introduction to the algebra of matrices. The inverse matrix and its calculation with approximate methods. The calculation of the adjoint and inverse with the method of determinants. Other methods. The errors of linear computations. Application to statistics. Author references. Index.

Note: The author has published many papers on problems pertaining to the solution of simultaneous linear equations. In this book he has synthesized the material and presented it essentially for those who are not specialists in mathematics. In his words, "special emphasis is given to solutions with direct pivotal condensation methods that are particularly applicable to the modern desk calculator." The first chapter contains a concise discussion of certain fundamental operations of modern computing machines and a helpful bibliography. The book is of interest to scientific workers in many fields, including statistics.

JACOBSON NATHAN

Lectures in abstract algebra. Volume I—Basic concepts. New York D Van Nostrand Company Inc., 1951 217 p illus. 24 cm. (The university series in higher mathematics) $5.00 77

Contents: Introduction—Concepts from set theory the system of natural numbers. Semi-groups and groups. Rings, integral domains and fields. Extensions of rings and fields. Elementary factorization theory. Groups with operators. Modules and ideals. Lattices. Index.

Note: A work based on lectures given by the author at the University of North Carolina, Johns Hopkins University and Yale University. It is designed for use in graduate courses, and when complete—three volumes are planned—it will cover basic concepts, the theory of vector spaces, the algebraic structure of fields. It is introductory to this area of mathematics but of course the treatment assumes a considerable degree of mathematical sophistication on the part of the reader.

LASS HARRY

Vector and tensor analysis. New York McGraw Hill Book Company Inc., 1950 347 p. 24 cm. (International series in pure and applied mathematics William T Martin consulting editor) $5.50 78

Contents: The algebra of vectors. Differential vector calculus. Differential geometry. Integration. Static and dynamic electricity. Mechanics. Hydrodynamics and elasticity. Tensor analysis and Riemannian geometry. Further applications of tensor analysis. References. Index.

Note: An introductory textbook in which considerable attention is given to indicating the applications of vector and tensor analysis. Numerous fully worked examples form a part of the exposition. The applications discussed in the final chapter include Einstein's law of gravitation.

MIDDLEMISS ROSS RAYMOND

College algebra. New York McGraw Hill Book Company Inc., 1952 344 p. illus. 24 cm. $3.50. 79

Contents: Real numbers. Fundamental operations. Operations with polynomials and rational fractional expressions. Equations. Functions and graphs. Systems of equations. Inequalities. Negative and fractional exponents. The exponential function. Logarithms. Variation. Progressions. Mathematical induction. The binomial theorem. Compound interest and annuities. Theory of equations. Determinants. Complex numbers. Permutations and combinations. Probability. Tables. Answers. Index.

Note: A modern introductory text intended both for science majors and liberal arts students. Considerable emphasis is placed on precision in stating hypotheses. The author is Professor of Mathematics in Washington University.

MILLER EARLE BRENNEMAN, AND ROBERT M THRALL

College algebra. New York The Ronald Press Company 1950 493 p. illus. 21 cm. $4.00 80

Contents (abridged): Part I, Introductory topics: The number system of algebra. Review topics. Part II, Functions of real variables; solution of equations: Linear functions and equations. Quadratic functions and equations. Functions and equations of the third and fourth degrees. Functions and equations of the nth degree. Rational functions. Exponential functions and logarithms. Part III, Functions of integers: Sequences and series. Arithmetic, harmonic, and geometric progressions. Mathematical induction. The binomial theorem. Part IV Other topics: Permutations and combinations. Probability. Matrices, determinants, and systems of linear equations. Complex numbers. Appendix. Index.

Note: A college textbook of intermediate level. It is designed for students who have had a course of elementary algebra and who are planning to major in mathematics or in some branch of science where algebra is used at more than an elementary level. The first-named author is Professor of Mathematics in the Illinois College and the second-named author is Associate Professor of Mathematics in the University of Michigan.

PERLIS SAM

Theory of matrices. Cambridge, Mass. Addison Wesley Press Inc., 1952 237 p. 23 cm. (Addison Wesley mathematics series, Eric Reissner consulting editor) $5.50 81

Contents: Introductory concepts. Vector spaces. Equivalence, rank, and inverses. Determinants. Congruence and Hermitian congruence. Polynomials over a field. Matrices with polynomial elements. Similarity. Characteristic roots. Linear transformations. References. Index.

Note: An introductory textbook written particularly for students of engineering and other fields who are mainly interested in matrix theory for its potential practical applications. However, as the author points out, it is suitable also for mathematics majors who are taking their first course in the subject. Basic ideas and techniques

are emphasized, and each point and manipulation is carefully and fully discussed when first introduced. The author is Associate Professor of Mathematics at Purdue University

RITT, JOSEPH FELS

Differential algebra. New York American Mathematical Society 1950 184 p 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXIII) $4 40 82

Contents: Differential polynomials and their ideals. Algebraic differential manifolds. Structure of differential polynomials. Systems of algebraic equations. Constructive methods. Analytical considerations. Intersections of algebraic differential manifolds. Riquier's existence theorem for orthonomic systems. Partial differential algebra. Questions for investigation. Bibliography Index.

Note. The body of algebra deals with the operations of addition and multiplication. T these may be adjoined differentiation. There results theory in which algebra and analysis, without fusing, play coördinate roles. One obtains thus an enlarged algebraic phylum in which classical entities appear as evolutionary predecessors of entities of more complex structure. Differential algebra throws strong light on such analytical matters as the singular solutions of algebraic differential equations and the order of system of such equations. The present book sets forth considerable part of what has thus far been contributed to differential algebra. Concrete algebra and some knowledge of existence theorems are, essentially the requirements put on the reader. An appendix presents questions for investigation.

SCHATTEN, ROBERT

A theory of cross-spaces Princeton Princeton University Press, 1950 153 p. 25 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. Number 26) $2 50 83

Contents. Introduction. Notations and conventions. The algebra of expressions $\Sigma_{i=1} f_i \otimes g_i$. Crossnorms. Cross-spaces of operators. Ideals of operators. Crossed unitary spaces. Appendix Reflexive crossnorms. Reflexive cross-spaces. Limited" crossnorms. Appendix A "self associate crossnorm. References.

Note The problem attacked in this study is: given two linear vector spaces L_1 and L_2, is it possible to construct linear vector space, say denoted with the symbol $L_1 \otimes L_2$ of formal products $f \otimes g$ for which the distributive multiplication laws hold? The discussion is on an advanced mathematical level.

SCHILLING OTTO FRANCIS GEORGE

The theory of valuations. New York American Mathematical Society 1950 253 p 26 cm. (American Mathematical Society Mathematical surveys. no IV) $6 00 84

Contents. General properties of valuations. Complete fields. The ramification theory of valuations. Special ideal theory Arithmetic of simple algebras Local class field theory The structure of complete fields. The general Galois theory Facts about linear algebras. Glossary

Note. The theory of valuations is branch of topological algebra. Valuation theory plays an important part in such fields of algebra as class field theory the structure of commutative rings, and the foundations of algebraic geometry This volume concentrates on the general significance of valuation theory for the algebraic and arithmetic structure of fields, division rings, and simple algebras. Each chapter has its own bibliography and major part of the literature on valuations is covered

SOKOLNIKOFF IVAN STEPHEN

Tensor analysis theory and applications. New York John Wiley & Sons Inc., 1951 335 p 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) $6.00 85

Contents: Linear vector spaces—matrices. Tensor theory Geometry Analytical mechanics. Relativistic mechanics. Mechanics of continuous media. Bibliography Index.

Note: An introduction to tensor analysis written on the graduate level and slanted for those interested in the applications of the subject rather than in its theory No special field of application is emphasized, however; and in the words of the author, "Perhaps the best evidence of the remarkable effectiveness of the tensor apparatus in the study of Nature is in the fact that it was possible to include, between the covers of one small volume, large amount of the material that is of interest to mathematicians, physicists, and engineers. The treatment of relativistic mechanics is intentionally brief because the author felt no need to duplicate the contents of available books on relativity of which Bergmann, *An introduction to the theory of relativity* (New York, 1942) and Rainich *Mathematics of relativity* (New York, 1950) are mentioned in the bibliography

TARSKI, ALFRED

A decision method for elementary algebra and geometry Second edition revised. By Alfred Tarski. Prepared for publication with the assistance of J C C. McKinsey Berkeley Calif University of California Press, 1951 63 p illus. 28 cm. Paper $2 75 86

Contents. Introduction. The system of elementary algebra. Decision method for elementary algebra. Extensions to related systems. Notes. Bibliography Supplementary notes.

Note. In this monograph is presented method for deciding on the truth of sentences of the elementary algebra of real numbers and hence also of elementary geometry In mathematical research, both pure and applied, arise problems as to the truth of complicated sentences of elementary algebra or geometry The decision method here presented gives the mathematician the assurance that he will be able to solve every such problem by working at it long enough. The publication is divided into three major sections: the first section contains description of the system of algebra to which the decision method applies; in the second section the author develops the decision method itself in detailed way; in the third, are discussed some extensions of the results as well as some related problems. The notes at the end contain, in addition to historical and bibliographical references, the discussion of various points of theoretical interest hich are not directly related to the question of constructing decision machine. A short bibliography of 24 items refers to the previous known writings in this field. The second edition is a photographic reproduction of the 1948 edition with misprints and minor flaws corrected and three additional pages of notes.

WADE THOMAS L.

The algebra of vectors and matrices. Cambridge Addison Wesley Press, Inc., 1951 189 p 22 cm. $4.50 87

Contents: Basic concepts. Vectors of two and three dimensions. Vector methods in geometry; linear dependence of vectors. Vectors of dimensions. Elementary properties of matrices. Related and special matrices. Groups, matrices, and transformations. The characteristic equation of matrix. Rank of matrix. Matrices and algebraic forms. Some applications of matrix algebra. Appendixes. Bibliography Index. Answers to exercises.

Note: An introduction for students ho desire only working knowledge and who will not pursue the subject any further than this book. On the other hand, the treatment is developed against the background of modern algebra; hence it can be used as an introduction to the whole field of modern algebra.

WALKER, ROBERT JOHN

Algebraic curves. Princeton Princeton University Press, 1950. 201 p 24 cm. (Princeton mathematical series edited by Marston Morse and A. W Tucker No. 13) $4.00 88

Contents: Algebraic preliminaries. Projective spaces. Plane algebraic curves. Formal power series. Transformations of curves. Linear series. Index.

Note: An introductory text in algebraic geometry In order to keep the presentation simple, the book has been limited to the theory of curves. All theorems are proved, and exercises are included in the text for students to work. The study is carried as far as the theorem of Riemann-Roch.

ARITHMETIC AND THEORY OF NUMBERS

DUBISCH, ROY

The nature of numbers, an approach to basic ideas of modern mathematics. New York The Ronald Press Company, 1952 159 p. illus. 22 cm. $4.00 89

Contents: Counting from one to a googol. Writing numbers from one to a googol. God made the integers. Creation completed. Zero again—and less. Fractions are easy now. The unspeakable. The great *i* solves all. A shot in the arm for complacent algebraists of the nineteenth century. How lasting was the shot? Last-minute edition of the *Algebra gazette*. The author's lament. Appendix. Suggestions for further reading. Answers to problems. Index.

Note: A refreshing exposition of the nature or ideas of present-day mathematics. The author begins it by showing that the mathematics of common knowledge, particularly arithmetic, is based on the acceptance of abstractions. After this he takes up the basic concepts of mathematics such as *matrix algebra and function theory*. The book is written for laymen, and it should be useful to anyone who desires to learn what professional mathematicians concern themselves with.

JONES, BURTON WADSWORTH

The arithmetic theory of quadratic forms. New York The Mathematical Association of America. *Distributed by John Wiley & Sons Inc.*, 1950 212 p. 19 cm. (The Carus mathematical monographs. No. 10) $3.00 90

Contents: Forms with real coefficients. Forms with *p*-adic coefficients. Forms with rational coefficients. Forms with coefficients in *R* (*p*). Genera and semi-equivalence. Representations by forms. Binary forms. Ternary quadratic forms. Bibliography. Problems. Theorem index. Index.

Note: A self-contained presentation of this mathematical topic. The author has assumed that *his readers will be familiar with* matrix theory and the theory of numbers. The work is of interest to graduate students specializing in mathematics, and to professional mathematicians who need an introduction to this special subject. The author is a member of the faculty of the University of Colorado.

LARSEN, HAROLD DANIEL

Arithmetic for colleges. New York The Macmillan Company 1950 275 p. illus. 21 cm. $4.00 91

Contents: Number. Casting out nines and elevens. Addition. Subtraction. Multiplication. Division. Common fractions. Decimal fractions. Percentage. Units of measure and dimensional relations. *Approximate numbers and computation. Square root. Introduction to the slide rule.* References. Appendix. Index. Answers.

Note: An unusual treatment of arithmetic because it is designed primarily for college students. Rather than a review of principles and techniques usually studied in elementary school, it is a fresh treatment suitable for persons who will teach arithmetic in elementary schools and for others who desire a treatment for mature readers. The bibliography *is selective but includes outstanding* "popular" treatments of mathematics, books on mathematical recreation, standard treatises on such topics as numbers, and books and articles on the teaching of arithmetic.

POLLARD, HARRY

The theory of algebraic numbers. New York The Mathematical Association of America. *Distributed by John Wiley and Sons Inc.* 1950 142 p 19 cm. (The Carus mathematical monographs. No 9) $3.00 92

Contents: Divisibility. The Gaussian primes. Polynomials over a field. Algebraic number fields. Bases. Algebraic integers and integral bases. Arithmetic in algebraic number fields. The fundamental theorem of ideal theory. Consequences of the fundamental theorem. Class-numbers and *Fermat's* problem. Minkowski's lemma and the theory of units. References. Index.

Note: An introductory presentation of classical algebraic number theory. *In general theorems are proved, but in the case of Gelfond and Schneider's theorem for the transcendence of algebraic numbers,* the reader is referred to a paper in a mathematical journal for the proof. The book is of interest to advanced students who are majoring in mathematics, to mathematicians who have specialized in other fields but wish some knowledge of this one, and to lay readers who are mathematically mature and pursue mathematics as a recreation.

STEWART, BONNIE MADISON

Theory of numbers. New York Macmillan Company, 1952 261 p. illus. 22 cm. $5.50 93

Contents (abridged): Preliminary considerations. Mathematical induction. *Representation of the integers. The fundamental theorem of arithmetic.* Prime and composite integers. The bracket function. Groups of transformations: matrices and determinants. Diophantine equations of the first degree. Pythagorean triplets. Fermat's method of descent. Euler's phi-function. Introduction to the congruence notation. Linear congruences. Exponents, primitive roots, and indices. The quadratic reciprocity law. Sums of four squares. Introduction to quadratic forms. Peano's axioms for the natural integers. Rational numbers. Decimal representation of rational numbers. The fundamental theorem reconsidered.

Note: An introductory text developed in courses given at Michigan State College.

ANALYSIS

BELLMAN, RICHARD

A survey of the theory of the boundedness stability and asymptotic behavior of solutions of linear and non-linear differential and difference equations. Washington D. C. Office of Naval Research, Department of the Navy 1949 156 p. 27 cm. (Navexos P-596) Paper 94

Contents: Introduction: Boundedness, stability and asymptotic behavior of *solutions of systems of linear differential equations.* Theorems on stability. Theorems on boundedness. Theorems on asymptotic behavior. Non-linear differential equations: Methods. Stability. The equation $dx/dt = Ax + f(x,t)$, A constant. Continuation. $A(t)$ a periodic matrix. Generalization to $dx/dt = Ax + f(x, dx/dt, t)$. $A(t)$ a variable matrix. A general condition. A counter-example. One characteristic root zero. Asymptotic behavior of solutions. *Transformation of equations. All characteristic roots zero. Solutions in* trigonometric form. The magnitude of solutions of non-linear differential equations. Asymptotic behavior of solutions of a special class of equations. On the solutions of second order linear differential equations: A preliminary transformation. The boundedness of solutions of $u'' + a(t)u = 0$. Counter-examples. *L* stability. *Asymptotic* behavior of solutions of $u'' \pm [a^2 + \varphi(t)]u = 0$. The Liouville-*Jeffreys-Wentzel-Kramers-Brillouin approximation.* The *asymptotic* behavior of solutions of $(ru')' + k^2ru = 0$. Periodic coefficients. Almost periodic coefficients. Oscillation of solutions of $u'' + \varphi(t)u = 0$. Oscillation of solutions of $u'' + f(u,t) = 0$. Magnitude of oscillations of solutions of $u'' + \varphi(t)u = 0$. Non-oscillation theorems. Difference equations: The equation $y(t+1) = Ay(t)$, A a constant matrix. An important lemma. The linear equation $y(t+1) = [A + B(t)]y(t)$. *The non-linear equation* $y(t+1) = Ay(t) + f(y)$. Asymptotic behavior of solutions. Magnitude of solutions of non-linear difference equations. Difference equations with arbitrary real spans.

Note: In this work are collected and correlated the known results *of solutions to the class of differential equations of the form*

$$\frac{dx_i}{dt} = f_i(x_1, x_2, \ldots, x_n, t), \quad 1 \leqslant i \leqslant n,$$

where $x_1, x_2, \ldots, x_n$ and t are real variables, a class of differential equations for which practical applications have been found in such diverse fields as aerodynamics, astrophysics, and electronics. It is from a survey of the literature of these fields as well as of mathematics, and with a view to preventing further duplication and to stimulating research on outstanding problems, that the present work was compiled and published. As central themes, three principal properties of solutions were selected: boundedness, stability and asymptotic behavior. The work includes bibliographies, which appear at the ends of the chapters.

BERGMAN STEFAN

The kernel function and conformal mapping. New York American Mathematical Society 1950 161 p. 26 cm. (American Mathematical Society Mathematical surveys. no v) $4 00 95

Contents Orthogonal functions. The kernel function and associated minimum problems. The invariant metric and the method of the minimum integral. Kernel functions and Hilbert space. Representation of the classical domain functions. Canonical conformal transformations. Orthogonalization over the boundary Variational methods. Existence proofs. Partial differential equations. Functions of two complex variables and pseudo-conformal mapping. Bibliography Index.

Note. This survey presents number of methods and principles which are of wide applicability in such branches of analysis as function theory partial differential equations, differential geometry etc. The special emphasis here, however is on conformal mappings. The underlying idea is to consider linear classes of functions in which norm can be introduced and the notion of orthogonality defined. For each complete system of orthonormal functions in the class kernel function is defined. The classical domain functions, such as Green's and Neumann's harmonic measures, etc., are shown to be intimately related to the kernel function. Since the latter is defined in terms of an orthonormal system, it is possible to solve many conformal mapping problems numerically T read this volume considerable mathematical background is required.

BERNSTEIN DOROTHY LEWIS

Existence theorems in partial differential equations. Princeton Princeton University Press 1950 228 p illus. 25 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. No 23) $2 50 96

Contents: Introduction. The initial value problem and the problem of Cauchy for first order differential equations. Second order differential equations. Partial differential equations of order >2 Bibliography

Note. This study is intended to list the existence theorems used in solving partial differential equations, with special emphasis on those which may be utilized in the solution of such equations by means of digital computing machines. Two opposite approaches to the use of computing machines in problems involving partial differential equations are illustrated by (1) those persons who believe that computing machines can be used to solve all such problems if the equations are set up correctly and (2) those who will not attempt to use them in solving partial differential equation unless it can be shown to hav at least one unique solution. In this book an attempt has been made to reach compromise by providing the reader with an opportunity to draw an analogy between his problem and the ones the author has worked out. This should enable him to see if solution exists for his problem. The author is Professor of Mathematics in the University of Rochester.

BOCHNER, SALOMON AND K. CHANDRASEKHARAN

Fourier transforms. Princeton Princeton University Press, 1949 219 p. 23 cm. (Annals of mathematics studies. No. 19) Paper $3.50 97

Contents: Fourier transforms in L_1 (one variable) Fourier transforms in L_1 (several variables) L_2-spaces. Fourier transforms in L_2. General transforms in L_2. General Tauberian theorem. Notes. Glossary

Note. A series of studies of interest to advanced graduate students and professional mathematicians. Altogether 93 theorems are stated and proved.

COURANT RICHARD

Dirichlet's principle, conformal mapping, and minimal surfaces. With an appendix by M. Schiffer New York Interscience Publishers Inc. 1950 330 p illus. 23 cm. (Pure and applied mathematics a series of texts and monographs, edited by H. Bohr, R. Courant and J J Stoker) $6.50 98

Contents: Dirichlet's principle and the boundary value problem of potential theory Conformal mapping on parallel-slit domains. Plateau's problem. The general problem of Douglas. Conformal mapping of multiply connected domains. Minimal surfaces with free boundaries and unstable minimal surfaces. Bibliography Appendix: Some recent developments in the theory of conformal mapping Green's function and boundary value problems. Dirichlet integrals for harmonic functions. Variation of the Green's function. Bibliography to appendix. Index.

Note. Dirichlet's principle is of wide interest in analysis and higher geometry In this book the author not only presents the principle and its proofs but illustrates the application of the concept to various problems in mathematics, especially problems of minimal surfaces. Though no applications to technology are indicated in the book, nevertheless the book's contents are applicable to such practical problems as the analysis or mapping of electromagnetic fields.

FRANKLIN, PHILIP

Fourier methods New York McGraw Hill Book Company, Inc., 1949 289 p illus. 21 cm. $5 00 99

Contents. Complex quantities. Impedance. Fourier series and integrals. Partial differential equations. Boundary value problems. Laplace transforms. Transients. Bibliography Index.

Note: A brief and general introduction to the use of Fourier series and Laplace transforms. Emphasis is on methods rather than theory and the treatment assumes knowledge of elementary calculus. The text is intended for college students majoring in applied mathematics, engineering, and physics, and the illustrative exercises and review problems have particular application in these fields. The author is Professor of Mathematics at Massachusetts Institute of Technology

GOLOMB, MICHAEL, AND MERRILL SHANKS

Elements of ordinary differential equations. New York McGraw Hill Book Company Inc., 1950 356 p 24 cm. (International series in pure and applied mathematics William Ted Martin consulting editor) $4.50. 100

Contents: Review and collection of formulas. Geometric fundamentals for first-order differential equations. Techniques for solving first-order equations; applications. Second-order differential equations. Linear differential equations of higher order; constant coefficients. Algebra of inverse operators; systems of linear differential equations. Linear equations with variable coefficients. Solution in power series; some classical equations. Appendices. Bibliography Answers. Index.

Note: An introductory textbook designed for use in courses offered to college students who have completed course in elementary calculus. Special pedagogical features listed by the authors in the preface are "early emphasis on geometric and numerical methods, use of the superposition principle, use of the existence theorems in development of techniques, elementary but mathematically sound development of operational calculus, systems of equations treated carefully without use of matrices, use of Green's functions and elementary but precise treatment of power series. The authors are members of the faculty of Purdue University

HALMOS PAUL RICHARD

Measure theory New York D Van Nostrand Company Inc. 1950 304 p illus. 24 cm. (The university series in higher mathematics, Editorial board M H. Stone, chairman) $6.25 101

Contents: Sets and classes. Measures and outer measures. Extension of measures. Measurable functions. Integration. General set functions. Product spaces. Transformations and functions. Probability Locally compact spaces. Haar measure. Measure and topology in groups. References. Bibliography List of frequently used symbols. Index

Note This work is both textbook for graduate students of mathematics and treatise of interest to professional mathematicians who are working in the more advanced areas of analysis and topology The text proper is limited more or less to the fundamentals of measure theory but in certain of the exercises the author has assumed on the part of the reader knowledge of advanced concepts

in topology etc. Thus he has made the book of interest both to beginners and to those who have done previous work in the field. He is Associate Professor of Mathematics at the University of Chicago.

HOLMES, CECIL THOMAS

Calculus and analytic geometry New York McGraw Hill Book Company Inc., 1950. 416 p illus. 24 cm. $5 00 102

Contents: Algebra and geometry in cooperation. Elements of the differential calculus. The conic sections. Maxima, minima, and inflections. First notions of the integral calculus. Algebraic functions. Curvilinear motion—vectors—parametric equations—arc length—area of surface of revolution. The logarithmic and the exponential functions—integration by parts. The trigonometric functions. Calculus with the trigonometric functions—applications. Infinite series—expansion of functions. Ordinary differential equations. Solid analytic geometry. Differential calculus for functions of more than one variable. Integral calculus with functions of more than one variable. Formulas for reference. Answers to exercises. Index.

Note. An introductory textbook developed at Bowdoin College where the author is Professor of Mathematics. It is organized so that the student who stays with the course only through the fifth chapter will have been presented with a survey of the main concepts and techniques of plane geometry and of calculus, while the student who takes the whole course will in addition acquire considerable practice in the use of the calculus. Most theorems are proved.

KAPLAN WILFRED

Advanced calculus. Cambridge Mass Addison Wesley Press Inc. 1952 679 p 24 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $8.50 103

Contents: Introduction. Vectors. Differential calculus of functions of several variables. Vector differential calculus. Integral calculus of functions of several variables. Vector integral calculus. Infinite series. Fourier series and orthogonal functions. Ordinary differential equations. Functions of a complex variable. Partial differential equations. Index.

Note: A college textbook for students who have completed courses in introductory algebra at the college level, analytic geometry and elementary calculus. Although fairly frequent discussions of applications—for instance the application of conformal mapping in hydrodynamics—indicate that the book is designed for engineering students rather than for mathematicians, the treatment is rigorous. Literature references accompany the chapters. The author is Associate Professor of Mathematics in the University of Michigan.

LEFSCHETZ, SOLOMON editor

Contributions to the theory of nonlinear oscillations. Princeton Princeton University Press, 1950 350 p. illus 24 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. No. 20) $4 00 104

Contents: On systems of ordinary differential equations, by S. P Diliberto. Oscillation of a third order nonlinear autonomous system, by L. L. Rauch. Nonlinear difference-differential equations, by F H. Bowrall. Forced oscillations in nonlinear systems, by M. L. Cartwright. Singular perturbations of a Van der Pol equation, by J G. Wendel. The existence of forced periodic solutions of second order differential equations near certain equilibrium points of the unforced equation, by C. E. Langenhop and A. E. Farnell. The construction of periodic solutions of singular perturbation problems, by W Wasow

Note: A collection of short monographs on nonlinear periodic motions in dissipative systems. Most of them have engineering as well as mathematical interest—in fact five of the papers were prepared under research contracts with the Office of Naval Research.

LEFSCHETZ SOLOMON editor

Contributions to the theory of nonlinear oscillations. Volume II. By M. L. Cartwright, E. A. Coddington, H. G DeBaggis, S Lefschetz, N Levinson J McCarthy and H. L. Turrittin. Princeton Princeton University Press 1952 122 p. 26 cm. (Annals of mathematics studies. No 29) Paper $1.50 105

Contents: Van der Pol's equation for relaxation oscillations, by M. L. Cartwright. Perturbations of linear systems with constant coefficients possessing periodic solutions, by E. A. Coddington and N. Levinson. Dynamical systems with stable structures, by H. F DeBaggis. Notes on differential equations, by S. Lefschetz. A method for the calculation of limit cycles by successive approximation, by J. McCarthy Asymptotic expansions of solutions of systems of ordinary linear differential equations containing a parameter by H. L. Turrittin.

Note: In this second collection of original contributions, all but one of the papers bear on the solution of oscillatory problems by techniques of differential equations. Literature references are included in both volumes.

MCKELVEY JOSEPH VANCE

Calculus. Revised edition. New York The Macmillan Company 1951 405 p illus. 22 cm. $4.50 106

Contents (abridged) Differential calculus: Functions. Limits and continuity Increments—derivatives. Differentiation of algebraic functions. Transcendental functions. Differentials. Parametric equations. Rolle theorem—mean value theorem—indeterminate forms. Functions of more than one variable. Curvature. Singular points. Integral calculus: Integration by parts—substitutions—rational fractions. The definite integral. Length of arc—area of surface of revolution. Improper integrals. Multiple integrals. Fluid pressure—moments—work. Infinite series. Differential equations. Theory of limits—continuity Answers to exercises. Table of integrals. Index.

Note: (1st ed. 1930) An established introductory text in which the author has followed the pedagogical principle of illustrating new ideas first and giving definitions, terminology and theorems afterwards. The present edition represents a moderate amount of revision with one newly added chapter many new problems, and numerous lesser changes. The author is Professor of Mathematics in Iowa State College.

MCKINSEY J C C

Introduction to the theory of games. The Rand Corporation. New York McGraw Hill Book Company Inc. 1952 571 p illus. 24 cm. (The Rand series) $6.50 107

Contents: Rectangular games. The fundamental theorem for rectangular games. The solutions of a rectangular game. A method of approximating the value of a game. Games in extensive form. Games in extensive form—general theory. Games with infinitely many strategies. Distribution functions. Stieltjes integrals. The fundamental theorem for continuous games. Separable games. Games with convex payoff functions. Applications to statistical inference. Linear programming. Zero sum n-person games. Solution of n-person games. Games without zero-sum restriction—the von Neumann-Morgenstern theory. Some open problems. Bibliography. Index

Note: The subject of this work is the mathematical theory of games and strategy. The theory has application not only to such games as chess and poker but also to military strategy, certain problems related to business competition, etc. However, applications are not stressed. The book is addressed to college students who have a knowledge of introductory calculus and classical algebra. Other mathematical concepts, such as the properties of matrices and distribution functions, are explained in the book. The author is a member of the faculty of Stanford University

MARDEN MORRIS

The geometry of the zeros of a polynomial in a complex variable. New York American Mathematical Society 1949 183 p. 26 cm. (American Mathematical Society Mathematical surveys. no III) $5 00 108

Contents: Introduction. The critical points of a polynomial and some of their generalizations. Investigative formulation. Composite polynomials. The critical points of a rational function which has its zeros and poles in prescribed circular regions. The critical points of a polynomial which has only some prescribed zeros. Bounds for the zeros as functions of all coefficients. Bounds for p zeros as functions of $p+1$ coefficients. The number of zeros in a half-plane or sector. The number of zeros in a given circle. Bibliography. Index.

Note: The problems treated here center about the study of the zeros of a polynomial as functions of various parameters, usually the

coefficients of the polynomial. The first contributors to this subject were Gauss and Cauchy. This survey is a detailed exposition bringing together, unifying, and simplifying the many results at present scattered throughout the mathematical journals.

MAY, KENNETH OWNSWORTH

Elementary analysis. New York, John Wiley & Sons, Inc. 1952. 635 p. illus. 22 cm. $5.00 109

Contents: Introduction. Logic. Numbers and elementary operations. Linear functions. The quadratic function. The power functions. The exponential and logarithmic functions. Circular functions. Analytic geometry. The complex number system. Conic sections. Polynomials. Algebraic functions. Functions of two variables. Tables. Index.

Note: An introductory textbook for beginning college students. It provides a unified treatment of concepts and techniques from logic, number theory, algebra, analytic geometry, trigonometry, and introductory calculus. It is characterized by patient and clear explanations. The author is Chairman of the Department of Mathematics in Carleton College.

MILLER, FREDERIC HOWELL

Analytic geometry and calculus: a unified treatment. New York, John Wiley & Sons, Inc., 1949. 658 p. illus. 22 cm. $5.50 110

Contents: Functional relations and loci. The straight line. Limits and the derivative concept. Differentiation of algebraic functions. The integral concept. Elementary applications of calculus. The circle. Coordinate transformations. The conic sections. Differentiation of transcendental functions. Integration processes. Parametric equations. Further applications of differential calculus. Further applications of integral calculus. Polar coordinates. Points, planes, and lines in space. Surfaces and curves in space. Partial differentiation. Multiple integrals. Infinite series. Appendices. Answers to odd-numbered exercises. Index.

Note. A distinctive feature of this college text is its integration of plane and solid analytic geometry with differential and integral calculus. The unified presentation is thought to have definite advantages over the study of analytic geometry and calculus as separate branches of mathematics. Numerous illustrative examples are worked out as part of the exposition. There are about 3,000 exercises for the student, and a fair number of these illustrate applications in physics or engineering. The author is Professor of Mathematics in the Cooper Union School of Engineering.

MILNE, WILLIAM EDMUND

Numerical calculus: approximations, interpolation, finite differences, numerical integration and curve fitting. Princeton, New Jersey, Princeton University Press. 1949. 393 p. 24 cm. $3.75 111

Contents: Simultaneous linear equations. Solution of equations by successive approximations. Interpolation. Numerical differentiation and integration. Numerical solution of differential equations. Finite differences. Divided differences. Reciprocal differences. Polynomial approximation by least squares. Other approximations by least squares. Simple difference equations. Appendixes: Notation and symbols. Texts, tables, and bibliographies. Classified guide to formulas and methods. Tables. Index.

Note: The translation of theoretical analysis into numerical results is the basic theme in this book. Written for upperclass undergraduate college students who have some knowledge of calculus and differential equations, it points the way to practical applications of more advanced mathematical methods. The specific methods covered are named in the chapter titles. The bibliography, which is annotated, lists books and pamphlets on related techniques not covered in this work.

PHILLIPS, HENRY BAYARD

Differential equations. Third edition revised. New York, John Wiley & Sons, Inc. 1951. 149 p. illus. 22 cm. $3.00 112

Contents: Differential equations of the first order with variables separable. Other equations of the first order. Special types of second order equations. Linear equations with constant coefficients. Answers. Index.

Note: A standard textbook for use in undergraduate college courses. It is concisely and clearly written. Most of the examples worked out in the text illustrate applications in science and engineering. The author is a member (emeritus) of the faculty of Massachusetts Institute of Technology.

PÓLYA, GYORGY, AND GABOR SZEGŐ

Isoperimetric inequalities in mathematical physics. Princeton, Princeton University Press. 1951. 279 p. 25 cm. (Annals of mathematics studies. Emil Artin and Marston Morse, editors. No. 27) $3.00 113

Contents: Definitions, methods and results. The principles of Dirichlet and Thomson. Applications of the principles of Dirichlet and Thomson to estimation of capacity. Circular plate condenser. Torsional rigidity and principal frequency. Nearly circular and nearly spherical domains. On symmetrization. On ellipsoid and lens. Surface-area and Dirichlet's integral. On continuous symmetrization. On spherical symmetrization. On a generalization of Dirichlet's integral. Heat-conduction on a surface. On membranes and plates. Virtual mass and polarization. Tables for some set-functions of plane domains. Bibliography. List of symbols.

Note: The purpose of this book is to facilitate the estimation of physical quantities on the basis of geometrical data, or the obtaining of less accessible quantities in terms of more accessible ones. The authors show that whereas the area enclosed by a curve cannot be determined merely by knowing its perimeter, the knowledge of the perimeter sets certain limits for the area. Other quantities such as the moment of inertia, with respect to the centroid, of a homogeneous plate bounded by the curve, the torsional rigidity of an elastic beam the cross-section of which is bounded by the given curve, the principal frequency of a clamped plate of the same size and shape, and the electrostatic capacity can be determined from the size and shape of a curve. The study is a product of a project sponsored by the Office of Naval Research. An especially useful section is the tabular presentation of quantities in the final chapter.

RAINVILLE, EARL DAVID

Elementary differential equations. New York, The Macmillan Company, 1952. 392 p. illus. 21 cm. $5.00 114

Contents: Definitions, elimination of arbitrary constants. Equations of the first order and first degree. Orthogonal trajectories. Hyperbolic functions. Linear equations with constant coefficients. Nonhomogeneous equations: undetermined coefficients—operational methods. Applications. Electric circuits and networks. Variation of parameters and other methods. Equations of order one and higher degree. Special equations of order two. The power series method. Solutions near regular singular points. The existence of solutions. Numerical methods. Partial differential equations. Fourier series. Boundary value problems. Index.

Note: A textbook designed for use in full-length, introductory courses in differential equations. Because particular attention is paid to methods of solving differential equations, it is especially suitable for students majoring in a science or in engineering. However direct applications to problems in physics and engineering are concentrated in two chapters. The first 13 chapters are a reprint of the material published as the author's *Short course in differential equations*, New York, The Macmillan Company 1949 210 p., $3.00.

RANDOLPH, JOHN F

Calculus. New York, The Macmillan Company. 1952. 483 p. 24 cm. $5.00 115

Contents. Functions, limits, derivatives. The definite integral. Applications of derivatives. Transcendental functions. Indefinite integration. Solid geometry. Partial derivatives. Multiple integrals. Further applications. Approximations. Series. Appendix. Table of integrals. Answers. Index.

Note: An introductory college textbook with several interesting pedagogical features. The author believes in the gradual introduction of important concepts and techniques, hence the exposition of ideas new to the student is usually foreshadowed by the introduction to material that demonstrates the necessity for it. The direct connection between analytic geometry and calculus is shown in the first part. The derivatives of sine and cosine functions are introduced early and definite integrals are taken up before indefinite integrals. The author is Chairman of the Department of Mathematics of the University of Rochester.

REDDICK, HARRY WILFRED

Differential equations. Second edition. New York John Wiley & Sons, Inc., 1949 288 p. illus. 22 cm. $3 75 116

Contents: Preliminary ideas. The formation of differential equations. Differential equations of first order. Linear equations with constant coefficients. Some special higher order equations. Simultaneous equations. The linear equation of second order. Series solutions. Answers. Index.

Note: (204) A standard introductory text. Although it is designed for use in both liberal arts and engineering schools, it is especially suited to the latter because of the preponderance of engineering problems. Only ordinary differential equations are dealt with. Major changes in this edition include new sections on hyperbolic functions and systems of curves, a new chapter on the linear equation of second order and many additional problems. Answers are given for all of the problems.

SCARBOROUGH JAMES BLAINE

Numerical mathematical analysis. Second edition Baltimore The Johns Hopkins Press 1950. 511 p. illus. 24 cm. $6 00 117

Contents: The accuracy of approximate calculations. Interpolation—differences—Newton's formulas of interpolation. Interpolation—central-difference formulas. Interpolation—Lagrange's formula—inverse interpolation. The accuracy of interpolation formulas. Interpolation with two independent variables—trigonometric interpolation. Numerical differentiation and integration. The accuracy of quadrature formulas. The solution of numerical algebraic and transcendental equations—equations in one unknown—simultaneous equations. Graeffe's root-squaring method for solving algebraic equations. The numerical solution of ordinary differential equations—equations of the first order—equations of the second order and systems of simultaneous equations—the differential equations of exterior ballistics—other methods of solving differential equations numerically. The numerical solution of partial differential equations. The numerical solution of integral equations. The normal law of error and the principle of least squares. The precision of measurements. Empirical formulas. Harmonic analysis of empirical functions. Appendix. Tables of the probability integral. Index. Answers to exercises.

Note: (211) The principles of numerical analysis, methods for obtaining numerical results, and methods for checking the accuracy of these results are explicitly described in this work. Several methods are described for some operations. The exposition contains a number of worked examples and—in some chapters—is also supplemented by rather full verbal discussions of the uses and limitations of the various methods. The first edition was published in 1930. A good deal of rewriting and some augmentation has gone into this edition. The author is Professor of Mathematics at the United States Naval Academy

SCHAEFFER, ALBERT CHARLES AND DONALD CLAYTON SPENCER

Coefficient regions for schlicht functions. New York American Mathematical Society 1950 311 p illus. (part col'd) 26 cm. (American Mathematical Society Colloquium publications. Vol. xxxv) $6 00 118

Contents (abridged) History of schlicht functions and elementary properties of the nth region. Variations of schlicht functions. The critical points of the differential equation. The Γ structure. Functions which are regular in $|z| < 1$ and satisfy the differential equation. The length-area principle. Löwner curves. Linear forms and the supporting surface. The portion of the boundary of V corresponding to single analytic slits. Parametrization of the boundary of V_n. The region V. A method for investigating the conjecture $|a_4| \leq 4$. The region of values of the derivative of a schlicht function, by Arthur Grad. Appendix. Bibliography. Index.

Note: This monograph is a presentation of the results of the investigations by the authors during the last four years of the family of extremal schlicht functions. Most of the material is new. In the calculus of variations there are two classical approaches (a) study of specific problems using local variations (b) study of a whole class of extremal problems and the investigation of the structure of the class as a whole. In this monograph the authors have sought to develop a systematic approach to problems of type (b) In order to keep the treatment within manageable length the authors have confined themselves to extremal problems relating to finite number of the coefficients in the Taylor expansion of a function which is regular and schlicht inside the unit circle. A chapter by Dr A. Grad in which he investigates the region of possible values of the derivative of a schlicht function at a fixed point inside the unit circle provides a further example of these methods.

SIEGEL, CARL LUDWIG

Transcendental numbers Princeton Princeton University Press, 1949 102 p. 23 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. Number 16) $2 00 119

Contents: The exponential function. Solutions of linear differential equations. The transcendency of e^{β} for irrational algebraic β and algebraic $\alpha \neq 0, 1$ Elliptic functions. Bibliography.

Note: By explaining some special transcendency problems, it is attempted in this study to evolve a method of investigation which will be useful in the search for more general results and the formulation of a theory of transcendental numbers. Rather than one continuous argument, the work is a collection of essays originally presented as lectures at Princeton University in 1944.

SPRAGUE ATHERTON HALL

Calculus. New York The Ronald Press Company 1952 576 p. illus. 24 cm. $6.50. 120

Contents: Function—limit—continuous function. The derivative. Further derivative formulas and techniques. Maxima and minima—related rates. Inverse functions—parametric equations. The trigonometric functions. The exponential and logarithmic functions. Differentials. Polar coordinates. Curvature. Curvilinear motion. The mean value theorem. Curve tracing. Integration. The definite integral. Geometric applications of the definite integral. Physical applications of the definite integral. Infinite series. Solid analytic geometry Partial differentiation. Curves and surfaces in space. Multiple integrals. Table of integrals. Formulas for reference. Answers to problems. Index.

Note An introductory textbook for college students who have completed courses in plane trigonometry and plane analytic geometry In the words of the author: "The purpose of this book is to present the elements of the calculus as simply as possible without sacrificing rigor. Hence analytic proofs which might cause difficulty are accompanied by detailed explanation. Applications of the material to geometry and physics are shown and many illustrative problems are provided. The author is Professor of Mathematics in Amherst College.

THOMAS, GEORGE BRINTON JR.

Calculus and analytic geometry Cambridge, Mass. Addison-Wesley Press, Inc. 1951 685 p. illus. 24 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $6.50 121

Contents. The rate of change of a function. Derivatives of algebraic functions. Applications. Integration. Applications of integration to physics. Plane analytic geometry Polar coordinates. Transcendental functions. Hyperbolic functions. Methods of integration. Vectors and parametric equations. Determinants and linear equations. Solid geometry and vectors. Partial differentiation. Multiple integrals. Infinite series. Complex numbers and functions. Answers to problems. Index.

Note: An introductory textbook which was developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. The exposition is slanted somewhat for students who are majoring in physics or engineering.

VON NEUMANN, JOHN

Functional operators. Princeton Princeton University Press, 1950 Volume I, 261 p Volume II, 107 p 26 cm. (Annals of mathematics studies, edited by Emil Artin and Marston Morse. Vol. 21–22) Vol. I $3.50 Vol. II, $2 25 122

Contents: Volume I, Measures and integrals: Point set theory Outer measure. Measure. Inner measure. Invariance of measure

under transformation. Covering theorems. Non-measurable sets. Lebesgue integral. Monotonic functions. General measure functions and outer measures. Properties of the general integral. Volume II, The geometry of orthogonal spaces: Linear spaces. Linear operators. Commutativity reducibility

Note: A notable contribution to operator theory. It is based on lectures that were given at the Institute for Advanced Study in the years 1933–34 and 1934–35 and is addressed to professional mathematicians and to other scientists with extensive mathematical experience.

WALSH JOSEPH LEONARD

The location of critical points of analytic and harmonic functions New York American Mathematical Society 1950 384 p 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXIV) $6 00 123

Contents: Fundamental results. Real polynomials. Rational functions. Rational functions with symmetry. Analytic functions. Green's functions. Harmonic functions. Bibliography. Index.

Note: A classical problem is the study of the location of the zeros of the derivative (that is, the critical points) of a polynomial $p(z)$ relative to the zeros (assumed given) of $p(\ )$ itself. This book is concerned with the geometric problem in the plane of the complex variable, the determination of point sets depending on the zeros of $p(z)$ which contain all critical points of $p(\ )$ point sets preferably bounded by easily constructed lines, circles, and conics; the book does not deal with the enumeration of critical points in an arbitrary region. The original theory was developed by Gauss, Lucas, Laguerre, Jensen, and others, was extended by Bôcher to include the critical points of rational functions, and now the present comprehensive unified theory included polynomials, rational functions, periodic functions, Green's functions, harmonic measure, and various other harmonic functions. Cases in which symmetry occurs are emphasized. Many of the methods are elementary and require no previous knowledge of the topic. The results are presented in form convenient for reference, and are of significance in connection with conformal mapping, level curves of analytic and harmonic functions, extremal polynomials, extremal problems in analytic functions, potential theory and hydrodynamics.

WEINSTOCK ROBERT

Calculus of variations, with applications to physics and engineering. New York Mc Graw Hill Book Company Inc. 1952 326 p illus. 24 cm. (International series in pure and applied mathematics, William Ted Martin consulting editor) $6.50 124

Contents: Introduction. Background preliminaries. Introductory problems. Isoperimetric problems. Geometrical optics—Fermat's principle. Dynamics of particles. Two independent variables—the vibrating string. The Sturm-Liouville eigenvalue-eigenfunction problem. Several independent variables—the vibrating membrane. Theory of elasticity. Quantum mechanics. Electrostatics. Bibliography. Index.

Note. The calculus of variations is usually treated as an area of pure mathematics. However it has wide applications in physics and engineering. This introductory book is devoted primarily to the basic concepts and techniques, but the examples that are worked out in the exposition and the problems that are included for the student to solve usually pertain to physics or engineering. For readers who are familiar with differential and integral calculus and basic physics, including the elements of modern physics.

ZYGMUND ANTONI AND OTHERS

Contributions to Fourier analysis. By A. Zygmund, W Transue, M Morse, A. P Calderón and S Bochner Princeton Princeton University Press 1950 192 p. 26 cm. (Annals of mathematics studies. No 25) Paper $3.00 125

Contents: Localization of best approximation, by S. Bochner. Dirichlet problem for domains bounded by spheres, by S. Bochner. The Fréchet variation and Pringsheim convergence of double Fourier series, by M. Morse and W. Transue. Norms of distribution functions associated with bilinear functionals, by M. Morse and W Transue. Note on the boundary values of functions of several complex variables, by A. P. Calderón and A. Zygmund. On the theorem of Hausdorff-Young and its extensions, by A. P. Calderón and A. Zygmund.

Note. The original papers named above are presented in this volume.

STATISTICAL METHODS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on bulk sampling. Presented at the fifty fourth annual meeting American Society for Testing Materials Atlantic City, N J June 18 1951 Philadelphia American Society for Testing Materials 1952 65 p illus 23 cm. (Special technical publication no 114) Paper $1 75 126

Contents: Introduction, by W. E. Deming. Materials handling for bulk sampling, by J Manuele. Economic accumulation of variance data in connection with bulk sampling, by L. Tanner and M. Lerner. Two-stage acceptance sampling by attributes, by C. W Dunnett and J. W. Hopkins. Coal sampling problems, by A. A. Orning. The analysis of variance in a sampling experiment, by W. M. Bertholf. The design of coal sampling procedures, by W. M. Bertholf.

Note: A collection of original papers dealing with the methods of determining the average quality of products handled in bulk. The practical problems connected with the selection of a true sample are discussed, but emphasis is placed on theory and on statistical methods. The discussions following each paper are a vital part of the symposium.

ANDERSON, RICHARD LOREE, AND T A. BANCROFT

Statistical theory in research I, *Basic statistical theory* II, *Analysis of experimental models by least squares* New York Mc Graw Hill Book Company Inc., 1952 399 p. illus 24 cm. $7.00 127

Contents (abridged) Part I, Basic statistical theory: Probability. Univariate parent population distributions. Properties of univariate distribution functions. Bivariate and multivariate distributions and their properties. Derived sampling distributions and orthogonal linear functions. Derived sampling distributions—normal parent population. Introduction to point estimation and criteria of goodness. Interval estimation. Tests of hypotheses. Special uses of chi-square. Part II, Analysis of experimental models by least squares: Regression analysis. General regression model with fixed variates. Computational methods and methods of analysis for general regression model. Curvilinear regression—orthogonal polynomials. Least squares for experimental design models. The analysis of designs in complete blocks. The analysis of incomplete-blocks designs. Factorial experiments. The analysis of covariance. Analysis of data with both random and fixed effects (mixed model). The recovery of interblock information in incomplete-blocks designs. Summary of needed research. Appendix. Index.

Note: A book that is useful both as a text for college students and as a reference guide for scientists and other professional workers who make practical use of statistical theory and techniques, particularly in the design of experiments and the analysis of experimental results. The topics named in the chapter titles are treated in a clear, direct style and the authors have made frequent use of worked examples in their exposition of important points. The primary emphasis is on the basic theory but the treatment of this is definitely addressed to non-specialists in statistics and frequent mentions are made of applications. Selected literature references are included in the chapters.

BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY 1ST

Proceedings of the Berkeley Symposium on Mathematical Statistics and Probability held at the Statistical Laboratory Department of Mathematics, University of California, August 13–18 1945 January 27–29 1946

Berkeley Calif. University of California Press, 1949 501 p. illus. 27 cm. $7.50 128

Contents: Philosophical foundations of probability, by H. Reichenbach. The place of statistics in the university by H. Hotelling. Discussion on Professor Hotelling's paper. A postulational characterization of statistics, by A. H. Copeland. Remarks on computing the probability integral in one and two dimensions, by G. Pólya. Distributions which lead to linear regressions, by E. Fix. Non-parametric statistical inference, by J. Wolfowitz. Remarks on characteristic functions, by G. Pólya. Statistical mechanics and its applications to physics, by V F Lenzen. Systematic and representative design of psychological experiments, with results in physical and social perception, by E. Brunswik. Continuous index numbers and quantitative study of the general economy by F W Dresch. The mathematical formulation of strategic problems, by F Bitter. The reality of regularities indicated in sequences of observations, by G. F McEwen. Contribution to the theory of the X^2 test, by J. Neyman. Practical problems of matrix calculations, by H. Hotelling. The statistical study of the galactic star system, by R. J Trumpler. Time series and harmonic analysis, by J. L. Doob. Some techniques for simple classification, by C. F Kossack. An extension of an algorithm of Hotelling, by A. T Lonseth. The limiting distribution of functions of sample means and application to testing hypotheses, by P L. Hsu. On the theory of stochastic processes, with particular reference to applications, by W Feller. Extension of the Kolmogorov-Bartlett-Scheffé test, by E. W Barankin. Some comments on large sample tests, by E. L. Lehmann. The work of the California Forest and Range Experiment Station, by A. M. Wyckoff. The land-variability factor in cattle-grazing experiments, by A. L. Hormay and J. R. Bentley. The problem of sampling rainfall in mountainous areas, by R. L. Hamilton. Long-term silvicultural experiment on methods of cutting, by A. A. Hasel. Selection problems in animal breeding, by E. R. Dempster and I. M. Lerner. Wheat-bunt field trials, II, by G. A. Baker and F H. Briggs. Biological association of insects parasite and host populations, by J. K. Holloway

Note: In this volume are published the original papers presented at the first Berkeley Symposium on Mathematical Statistics and Probability. The subjects range from experimental problems requiring statistical treatment through statistical theory to philosophical paper analyzing the concept of probability. Included is group of papers on the organizational set-up best suited to making the services of mathematical statistics available to research workers in other fields. For the most part the papers are of an advanced nature and for that reason will chiefly interest professional mathematical statisticians. Most of the papers include bibliographical references.

BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY, 2ND

Proceedings of the second Berkeley Symposium on Mathematical Statistics and Probability held at the Statistical Laboratory Department of Mathematics, University of California, July 31–August 12, 1950 Edited by Jerzy Neyman. Berkeley University of California Press, 1951. 666 p. illus. 26 cm. $11.00 129

Contents: Part I, Mathematical statistics Asymptotic minimax solutions of sequential point estimation problems, by A. Wald. Some applications of the Cramér-Rao inequality by J. L. Hodges, Jr., and E. L. Lehmann. A generalized T test and measure of multivariate dispersion, by H. Hotelling. Tolerance intervals for linear regression, by W A. Wallis. Bayes and minimax estimates for quadratic loss functions, by M. A. Girshick and L. J Savage. Confidence regions for linear regression, by P G. Hoel. "Optimum" nonparametric tests, by W Hoeffding. Comparison of experiments, by D. Blackwell. The asymptotic distribution of certain characteristic roots and vectors, by T W Anderson. Asymptotically subminimax solutions of compound statistical decision problems, by H. Robbins. Characterization of the minimal complete class of decision functions when the number of distributions and decisions is finite, by A. Wald and J Wolfowitz. On median tests for linear hypotheses, by G. W Brown and A. M. Mood. Conditional expectation and convex functions, by E. W Barankin. Part II, Probability: Wiener's random function, and other Laplacian random functions, by P Lévy On some connections between probability theory and differential and integral equations, by M. Kac. Recent suggestions for the reconciliation of theories of probability, by B. De Finetti. Diffusion processes in genetics, by W Feller. Random ergodic theorems and Markoff processes with stable distribution, by S. Kakutani. A problem on random walk, by E. S. Lukacs. Continuous parameter martingales, by J. L. Doob. On almost sure convergence, by M. Loève. Some mathematical models for branching processes, by T E. Harris. A contribution to the theory of stochastic processes, by H. Cramér. The strong law of large numbers, by K. L. Chung. Some problems on random walk in space, by A. Dvoretzky and P Erdős. A remark on characteristic functions, by A. Zygmund. Random functions from Poisson process, by R. Fortet. Part III, Astronomy: An approach to the dynamics of stellar systems, by B. Lindblad. The problem of stellar evolution considered statistically by O. Struve. Statistical studies relating to the distribution of the elements of spectroscopic binaries, by E. L. Scott. Correction of frequency functions for observational errors of the variables, by R. J. Trumpler. Hydrodynamical description of stellar motions, by L. G. Henyey. Part IV Biometry: Improvement by means of selection, by W G. Cochran. Relative precision of minimum chi-square and maximum likelihood estimates of regression coefficients, by J. Berkson. Part V, Econometrics: Nonlinear programming, by H. W Kuhn and A. W Tucker. Why "should" statisticians and businessmen maximize "moral expectation"? by J. Marschak. An extension of the basic theorems of classical welfare economics, by K. J. Arrow Part VI, Physics: The concept of probability in quantum mechanics, by R. P Feynman. Statistical questions in meson theory by H. W Lewis. Statistical mechanics of continuous media (vibrating string with fixed ends) by J. Kampé de Fériet. Philosophical problems of the statistical interpretations of quantum mechanics, by V F Lenzen. Correlation of position for the ideal quantum gas, by G. Placzek. Part VII, Traffic engineering: Distribution of vehicle speeds and travel times, by D. S. Berry and D. M. Belmont. Statistical techniques in the field of traffic engineering and traffic research, by T W Forbes. Part VIII, Wave analysis: Correlograms for Pacific Ocean waves, by P Rudnick. Experimental correlogram analyses of artificial time series (with special reference to analyses of oceanographic data) by H. R. Seiwell.

Note: Original papers which were presented at the symposium named in the book's title have been collected here. The authors include foremost scientists of the United States of America and several other countries, and in many instances their papers contain hitherto unpublished advances in statistical methods.

BUROS OSCAR KRISEN, editor

Statistical methodology reviews 1941–1950 New York John Wiley & Sons, Inc. 1951 457 p. 27 cm. $7 00 130

Contents: Preface. How to use this volume. Review writing and editing. Books and reviews. Periodical directory and index. Publishers directory and index. Index of titles. Index of names. Classified index to books.

Note (314a-b) This reference work is both guide to books on statistical method and application and digest of reviews of them. Entries are arranged alphabetically by names of authors of the books. Following each entry is an excerpt from one or more critical reviews published in professional journals. Many of the excerpts are some hundreds of words long. The work is useful aid to librarians, scientists, etc., in selecting books on statistical methodology It serves also to bring together books that are published in separate fields, for example, education and medicine. The editor has addressed it also to book reviewers and editors of reviewing periodicals in the hope that it will lead to improvement of published reviews. This is the third volume in the series.

CATTELL, RAYMOND BERNARD

Factor analysis an introduction and manual for the psychologist and social scientist. Under the editorship of Gardner Murphy New York Harper and Brothers 1952 462 p. illus. 22 cm. $6.50 131

Contents (abridged) Part I, Basic concepts in factor analysis: The place of factor analysis in scientific method. Interpretation of correlations as clusters and factors. On obtaining factors from correlation matrix. Rotation of factors for scientific meaning. Factor estimation and the specification equation. The covariation chart and the possibilities of obliqueness, order and efficacy Part II, Specific aims and working methods: The chief alternative designs in factorizing matrix. Working methods for centroid extraction including communality estimation. The clustering methods of factor extraction. The elementary spatial computations in rotations. The special problems of oblique factors. General techniques and criteria of factor resolution. The home art of rotation by graphs Part III, General principles and problems: The effects of errors. True factor resolution and the design of experiment. Structuring variables by combinations of factor analysis with controlled experiment. Strategy and tactics of economy in computing. Glossary Appendix: Essential

steps in matrix multiplication by electronic digital calculators. Bibliography. Index of names. Index of subjects.

Note: In this book the techniques of factor analysis, a statistical method of wide potential applications in psychology and the social sciences, are explained for the benefit of advanced college students and graduate research workers. As indicated in the title, the treatment is introductory but adequate material is included to make the book useful as a practical guide for scientists interested in the use of factor analysis. References from statements in the text to citations of source articles in the bibliography are carefully given. The author is Research Professor of Psychology and Director of the Laboratory of Personality Assessment and Group Behavior of the University of Illinois.

COCHRAN, WILLIAM GEMMELL, AND GERTRUDE M. COX

Experimental designs. New York John Wiley & Sons Inc., 1950 454 p 24 cm. (Wiley mathematical series W. A. Shewhart, editor) $6.50. 132

Contents: Introduction. Methods for increasing the accuracy of experiments. Notes on the statistical analysis of the results. Completely randomized, randomized block, and latin square designs. Factorial experiments. Confounding. Factorial experiments with main effects confounded: split-plot designs. Factorial experiments confounded in quasi-latin squares. Balanced and partially balanced incomplete block designs. Lattice and cubic lattice designs. Balanced incomplete blocks. Lattice squares. Incomplete latin squares (Youden squares). Analysis of the results of a series of experiments. Random permutations of 9 and 16 numbers. Selected bibliography. List of author references. Index.

Note: Interpretation of the range of data obtained in a series of experiments is a problem (sometimes rather a complex one) in statistics. In most cases more valid conclusions can be drawn from observed data if the experiment is planned so as to satisfy the demands of sound statistical theory. This book presents detailed plans for some hundreds of experiments designed for a variety of conditions. The pertinent statistical theory is outlined, but the authors have assumed that their readers will have some familiarity with the basic principles of the analysis of variance. The book is of interest to research workers in many fields of science.

DEMING, WILLIAM EDWARDS

Some theory of sampling. New York John Wiley & Sons Inc. 1950 602 p. illus. 23 cm. $9.00. 133

Contents (abridged): Part I, The specification of the reliability required: The various errors of a survey. Part II, Some elementary theory for design: Moments and expected values. Multistage sampling, ratio-estimates, and choice of sampling unit. Allocation in stratified sampling. Distinction between enumerative and analytic studies. Control of the risks in acceptance sampling. Part III, Some theory for analysis and estimation of precision. The sample as a basis for action. Part IV Applications of some of the foregoing theory: Inventories by sampling. A population sample for Greece. Part V Some further theory for design and analysis: Detailed study of some binomial and related distributions. The gamma and beta functions. Tests for hypotheses in normal theory. The distribution of the external and internal variances. Appendix: A page of random numbers. Index.

Note: This important contribution to the application of statistical theory deals with obtaining accurate information by counting or examining only a portion of the "population" about which information is desired. This technique is often used in opinion polls, consumer surveys, census estimates, etc. It has application also to the planning of scientific experiments and interpretation of the results obtained. The work is written strictly from the viewpoint of applied statistics and is intended for professional workers and graduate students who have already mastered the elements of general statistical theory.

DIXON, WILFRID JOSEPH AND FRANK J MASSEY, JR.

Introduction to statistical analysis. New York McGraw Hill Book Company Inc., 1951 370 p. illus. 23 cm. $4.50 134

Contents: Introduction. Distributions. Introduction to measures of central value and dispersion. Universe and sample. The normal distribution. Various measures of central value and dispersion. Statistical inference. The variance: estimation and tests of hypotheses. The mean: estimation and tests of hypotheses. Analysis of variance. Regression and correlation. Analysis of covariance. Enumeration statistics. Probability of accepting a false hypothesis. Macrostatistics. Microstatistics. Nonparametric statistics. Sequential analysis. Sensitivity experiments. Appendix. Index.

Note: In this book statistics is viewed as "the science of experimentation." The work is a textbook written for a basic statistics course to be taken by students from all fields in which statistics finds application. The order and emphasis of topics are largely based upon the recommendations for a basic course in statistics stated by the Committee on Teaching of Statistics of the National Research Council. The appendix includes tables, etc., for reference work.

EDWARDS, ALLEN LOUIS

Experimental design in psychological research. New York Rinehart & Company Inc., 1950 446 p illus. 22 cm. $5.00 135

Contents: The nature of psychological research. Principles of experimental design. Probability and experimental design. The normal and χ^2 approximations of the binomial probabilities. Experiments involving a comparison of the difference between 2 frequencies or proportions. The application of the χ^2 distribution to research problems involving more than 1 degree of freedom. Testing hypotheses about correlation coefficients. The *t* test and the significance of means and differences between means. Heterogeneity of variance and the *t* test. An introduction to the analysis of variance. Heterogeneity of variance and transformations of the scale. The 2^n factorial design for experiments in which variables are varied in only 2 ways. Complex factorial designs. Experimental designs involving matched groups. Experimental designs involving repeated measurements of the same subjects. The Latin square design in psychological research. Applications of the analysis of covariance. Bibliography. List of formulas. Appendix. Index of names. Index of subjects.

Note: This book is concerned with the planning of experiments and with the analysis of experimental data, primarily in the fields of psychology, sociology and education. It presents for students in these fields standard techniques and some of the newer developments in statistical analysis, particularly with respect to small-sample theory. The reader or student needs a working knowledge of algebra and an elementary knowledge of applied statistics in order to understand this work.

FELLER, WILLIAM

An introduction to probability theory and its applications. Volume one. New York John Wiley & Sons Inc., 1950 419 p. illus. 23 cm. (Wiley mathematical statistics series Walter A. Shewhart, editor) $6.50 136

Contents: Introduction: The nature of probability theory. The sample space. Elements of combinatorial analysis. Stirling's formula. The simplest occupancy and ordering problems. Combination of events. Conditional probability statistical independence. The binomial and the Poisson distributions. The normal approximation to the binomial distribution. Unlimited sequences of Bernoulli trials. Random variables—expectation. Laws of large numbers. Integral valued variables—generating functions. Recurrent events—theory. Applications to runs and renewal theory. Random walk and ruin problems. Markov chains. Algebraic treatment of finite Markov chains. The simplest time-dependent stochastic processes. Answers to problems. Index.

Note: In this work probability theory is presented rigorously as a branch of mathematics. The discussions are confined to mathematical concepts and theorems are proved. However, in order to increase the book's usefulness, material on practical applications has been inserted in various places and is distinctively marked so that readers who are interested only in the mathematical exposition can skip it. As the chapter titles indicate, elementary subjects are considered first, but rather advanced ones are taken up in the last chapters. The work is designed for use as a textbook in advanced college classes, but it is potentially of interest to persons out of college who are beginning to work in fields where a thorough knowledge of probability theory is essential.

GORE, W L.
Statistical methods for chemical experimentation. New York Interscience Publishers, Inc. 1952 210 p. illus. 18 cm. $3.50. 137

Contents: Introduction. Statistical concepts. The reliability of estimates. Analysis of variance. Design of experiments. Correlation and regression. Attribute statistics. Appendices: Tables. Index to formulas. Glossary Bibliography Subject index.

Note: A useful, relatively brief collection of the statistical methods most used in the design of chemical experiments at the Du Pont Experimental Station, with which the author is associated. The style is direct and explicit. The book is well suited for the guidance of practical chemists who do not have time to master statistical theory Books which offer fuller treatments are listed in the annotated bibliography

GOULDEN, CYRIL HAROLD
Methods of statistical analysis Second edition. New York John Wiley & Sons, Inc., 1952 467 p. 24 cm. (Wiley publications in statistics Walter A. Shewhart editor) $7.50. 138

Contents: Introductory concepts. Variation, statistics, and the frequency table. Theoretical frequency distributions. Tests of significance. The analysis of variance. Linear regression analysis. Correlation. Partial and multiple regression and correlation. The analysis of covariance. Non-linear regression. Basic experimental designs. Factorial experiments. Incomplete block experiments. The treatment of non-orthogonal data. Goodness of fit. Tests of independence. The discriminant function. Probit analysis. Quality control and sampling for inspection and verification. Appendix. Index.

Note: (343) A text and reference book designed for research workers in the sciences. There is some emphasis on experimental design in the fields of agriculture and biology However this emphasis is not heavy enough to lessen the value of the book for students and students workers in other fields such as psychology. The first edition appeared in 1939. This edition represents very extensive revision and considerable increase in size. Each of the chapters is supplemented by substantial list of the pertinent literature. The author is Chief of the Cereal Division of the Central Experimental Farm in Ottawa, Canada.

GUILFORD, JOY PAUL
Fundamental statistics in psychology and education. Second edition. New York McGraw Hill Book Company, Inc. 1950. 633 p illus. 24 cm. (McGraw-Hill publications in psychology Clifford T Morgan consulting editor) $5 75 139

Contents: Counting and measuring. Frequency distributions. Measures of central tendency Measures of variability Cumulative distributions and curves. The normal distribution curve Correlation. The reliability and significance of statistics. Introduction to analysis of variance. Testing hypotheses. Test scales and norms. Special correlation, methods, and problems. Prediction of attributes. Prediction of measurements. Multiple prediction. Reliability of measurements. Validity of measurements. Scaling procedures. Appendixes: Some selected mathematical proofs and derivations. Tables. A glossary and index of symbols. Author index. Subject index.

Note (346) An introductory work for students interested in the applications of statistics in the two fields mentioned in the title. The first edition was strictly textbook but in the present the work has been expanded so much that it can be used also as working manual by graduates. It was almost completely rewritten for this edition and is now approximately almost twice as long.

HOUSEHOLDER, ALSTON S., AND OTHERS, editors
Monte Carlo method. Proceedings of a symposium held June 29 30 and July 1 1949 in Los Angeles, California, under the sponsorship of the Rand Corporation, and the National Bureau of Standards, with the co-operation of the Oak Ridge National Laboratory Edited by A. S Householder with the assistance of G E. Forsythe and H. H. Germond. Washington D C. Government Printing Office, 1951 42 p. illus. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 12) Paper $0.30 140

Contents. Showers produced by low-energy electrons and photons, by R. R. Wilson. An alignment chart for Monte Carlo solution of the transport problem, by B. I. Spinrad, G. H. Goertzel, and W. S. Snyder. Neutron age calculations in chains applied to particle transmission through matter by W C. De Marcus and L. Nelson. Stochastic methods in statistical mechanics, by G. W King. Report on Monte Carlo calculation performed with the Eniac, by M. Mayer. Calculation of shielding properties of water for high energy neutrons, by P. C. Hammer. A Monte Carlo technique for estimating particle attenuation in bulk matter by R. A. Shaw and others. Estimation of particle transmission by random sampling, by H. Kahn and T. E. Harris. History of RAND'S random digits—summary by G. W Brown. The mid square method of generating digits, by P C. Hammer Generation and testing of random digits at the National Bureau of Standards, Los Angeles, by G. E. Forsythe. Various techniques used in connection with random digits, by J von Neumann. Round table discussion summary by H. H. Germond.

Note: Here are reprinted most of the papers presented by physicists and others at symposium held in 1949 at the University of California, Los Angeles. The audience for these papers included professional mathematical statisticians. The papers tell of initial efforts to apply the Monte Carlo method—which involves combination of sampling theory and numerical analysis—made almost independently by number of different groups and individuals. The round-table discussion at the close of the symposium presented criticisms and suggestions and evaluation of the Monte Carlo method as contribution to the art of computing.

JOHNSON PALMER OLIVER
Statistical methods in research. New York Prentice-Hall, Inc. 1949 377 p. illus. 24 cm. $6 65 141

Contents: The realm of statistics. Probability and likelihood. Sampling distributions. The testing of statistical hypotheses. Current procedures in testing statistical hypotheses. The estimation of population parameters. Normal and normalized distributions in statistics. Statistical analysis of data under nonnormal assumptions. Sampling theory and practice. Analysis of variance and covariance. Applications of the analysis of variance and covariance method. The principles of experimentation. Applications of the principles of experimentation. Multiple regression problems. Appendix: Table of normal distribution. Table of t. Table of X^2 Table of F Table of L Index.

Note: An intermediate-level work designed to provide students in the biological and social sciences with the knowledge of statistical principles and techniques which are necessary in designing experiments and observational projects and for analyzing and interpreting the results. The author has assumed that the users of the book will have had course in introductory or descriptive statistics.

KEMPTHORNE, OSCAR
The design and analysis of experiments. New York John Wiley & Sons, Inc. 1952 631 p. 24 cm. (Wiley publications in statistics, W A. Shewhart editor) $8.50 142

Contents (abridged) The principles of experimental design. Elementary statistical notions. An introduction to the theory of least squares. The general linear hypothesis or multiple regression and the analysis of variance. The analysis of multiple classifications. Randomization. Latin squares. Plot technique. The sensitivity of randomized block and latin square experiments. Experiments involving several factors. Experiments involving factors with 3 levels. Split-plot experiments. Fractional replication. Quasifactorial or lattice and incomplete block designs. Lattice designs. Balanced incomplete block designs. Partially balanced incomplete block designs. Experiments on infinite populations and groups of experiments. Treatments applied in sequence. Appendix. Index.

Note. This book complements *Experimental designs* by Cochran and Cox, described above. It contains much fuller exposition of

theory and also discusses in more detail the bases of experimental design. However, it is intended primarily for the same audience, that is, advanced college students and other persons whose interest in statistics is based on their concern with experimental investigation in some field of science. For many years the author was engaged in statistical work at Rothamsted Experimental Station in England. He is now Professor of Statistics at Iowa State College.

MCNEMAR, QUINN

Psychological statistics. New York John Wiley & Sons Inc. 1949 364 p. illus. 22 cm. (Wiley publications in psychology Herbert S Langfeld advisory editor) $5 00 143

Contents: Introduction. Tabular and graphic methods. Describing frequency distributions. The normal curve and probability Sampling errors and statistical inference. Correlation introduction and computation. Correlation interpretations and assumptions. Factors which affect the correlation coefficient. Multiple correlation. Other correlation methods. Frequency comparison chi square. Small sample methods. Analysis of variance simple. Analysis of variance: complex. Analysis of variance: covariance method. Notes on sampling and statistical inference. Exercises. Appendix (tables) Index.

Note. A textbook intended for use in one-year college course. Its purpose is "to acquaint the student with the statistical techniques commonly used, to suggest economical computational procedures, and to state the assumptions and limitations of the various techniques. Sampling is fully covered, and three chapters are devoted to the meaning of the analysis of variance. The author is Professor of Psychology Statistics, and Education at Stanford University

MANN, H. B

Analysis and design of experiments analysis of variance and analysis of variance designs. New York Dover Publications Inc. 1949 198 p 20 cm. (The Dover series in mathematics and physics, W Prager consulting editor) $2 95 144

Contents: Chi-square distribution and analysis of variance distribution. Matrices, quadratic forms and the multivariate normal distribution. Analyses of variance in one way classification. Likelihood ratio tests and tests of linear hypotheses. Analysis of variance in an r-way classification design. The power of analysis of variance tests. Latin squares and incomplete balanced block designs. Galois fields and orthogonal Latin squares. The construction of incomplete balanced block designs Non-orthogonal data. Factorial experiments. Randomized designs, randomized blocks and quasifactorial designs. Analysis of covariance. Interblock estimates and interblock variance. Tables.

Note A brief but good introduction to statistical methods which are applicable to the design of scientific experiments. The author, who is Professor of Mathematics in Ohio State University had three groups of readers in mind. mature mathematicians who wish to acquire an understanding of the analysis of variance and of variance designs, advanced undergraduates and graduate college students in need of short textbook, and practical experimenters and statisticians who wish to grasp the mathematical principles and methods underlying the statistical application. The exposition sticks closely to the bare essentials of the subject. Frequent references are made to other books in which fuller treatments of basic mathematical concepts and techniques are available.

MOOD ALEXANDER MCFARLANE

Introduction to the theory of statistics. New York McGraw-Hill Book Company Inc., 1950 433 p illus. 24 cm. $5.50 145

Contents: Introduction. Probability and combinatorial methods. Discrete distributions. Distributions for continuous variates. Expected values and moments. Special continuous distributions. Sampling. Point estimation The multivariate normal distribution. Sampling distributions. Interval estimation. Tests of hypotheses. Regression and linear hypotheses. Experimental designs and the analysis of variance. Sequential tests of hypotheses. Distribution-free methods. Tables. Index.

Note: Although theory rather than applications is covered in this college text, the book is addressed to student scientists who will be more concerned with applications. The review problems illustrate applications in several fields of science. A knowledge of elementary calculus is presumed, and the treatment is not mathematically rigorous. Discussions of essential points are full rather than concise and the author's style reads easily hence the book is suitable one for the graduate scientist in need of an introduction to be studied without an instructor. The author is on the staff of the Rand Corporation.

MORSE, PHILIP MCCORD, AND GEORGE E KIMBALL

Methods of operations research. First edition revised. New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons Inc., 1951 158 p illus 28 cm. $4 00 146

Contents: Introduction. Probability The use of measures of effectiveness. Strategical kinematics. Tactical analysis. Gunnery and bombardment problems. Operational experiments with equipment and tactics. Organizational and procedural problems. Tables. Bibliography Index.

Note This book deals with the application of statistical techniques to the evaluation of specific alternative procedures in military strategy business operations, etc. During World War II the techniques explained were applied to such varied operations as the depth bombing of submarines and the protection of ships against Japanese suicide planes. Though most of the examples given in this book are drawn from military and naval applications, the general principles and the methods described are fully applicable to variety of problems in administration. From this standpoint the book is of interest to industrial engineers, business executives, and also to scientists concerned with the planning of experiments.

NEYMAN, JERZY

First course in probability and statistics. New York Henry Holt and Company 1950 350 p. illus. 24 cm. $5 00 147

Contents: Introduction: Scope of the theory of probability and statistics. Probability Probabilistic problems in genetics. Random variables and frequency distributions. Elements of the theory of testing statistical hypotheses. Appendix: Tables of the normal integral. Index of names. Index of terms.

Note: A college text designed to meet the needs of two types of students—those who study the subject as general education course and those planning to specialize in the subject or its fields of application. Most of the content is elementary and the treatment presumes only knowledge of high school mathematics. However, some advanced material is included, which can be used or omitted at the instructor's discretion. The author is associated with the Statistical Laboratory of the University of California.

REICHENBACH HANS

The theory of probability an inquiry into the logical and mathematical foundations of the calculus of probability Second edition. English translation by Ernest H. Hutten and Maria Reichenbach. Berkeley and Los Angeles University of California Press 1949 492 p illus. 24 cm. $12.50 148

Contents: Introductory considerations. Introduction to symbolic logic. Elementary calculus of probability Theory of the order of probability sequences. Probability sequences with coördinated elements. Continuous extensions of the concept of probability sequence. The frequency properties of probability sequences. Theory of probabilities of higher level. The problem of application. Probability logic. Induction. Index.

Note. The first English-language edition of notable work which appeared first as *Wahrscheinlichkeitslehre*, 1935. It presents comprehensive system of probability based upon mathematical, philosophical, and logical methods of reasoning. One of the key notions is the replacement of classical induction by statistical induction which leads to predictions about sequences of events rather than individual events. The theory is important not only in mathematics but also in modern physics. In comparison to the original edition, this one embodies many revisions and rearrangements by the author who is now Professor of Philosophy in the University of California.

WALD ABRAHAM

Statistical decision functions. New York John Wiley & Sons, Inc. 1950 179 p. illus.

23 cm. (Wiley publications in statistics, W A. Shewhart editor) $5.50 149

Contents: The general statistical decision problem, definitions and preliminary discussion. Zero sum two-person games with infinitely many strategies. Development of a general theory of statistical decision functions. Properties of Bayes solutions when the chance variables are independently and identically distributed and the cost of experimentation is proportional to the number of observations. Application of the general theory to various special cases. Bibliography. Index.

Note: An important contribution to statistical theory. It contains the first full statement of a general theory of statistical decision functions. The work has particular application to multi-stage scientific experiments, quality control procedures, etc., where steps beyond the first are selected or modified on the basis of the results of the first experiment or sample. However, it is written on the theoretical plane, and is chiefly of interest to persons who are experts in statistics or who at least have a fair knowledge of basic statistical theory and technique.

YOUDEN, WILLIAM JOHN

Statistical methods for chemists. New York John Wiley & Sons, Inc., 1951 126 p. 23 cm. $3.00. 150

Contents: Precision and accuracy. The measurement of precision. The comparison of averages. The regulation of errors. Statistics of the straight line. The analysis of variance. Interaction between factors. Requirements for data. Arrangements for improving precision. Experiments with several factors. List of publications referred to in the text. Appendices: Critical values of *t*. Critical values of *F* at 5 per cent level. Critical values of *F* at 1 per cent level. Table of squares. Index.

Note: In this book both statistical theory and proofs are largely absent, and the text is confined to exposition of statistical techniques that will be useful to chemists in planning experiments and in interpreting data derived from experiments. Brevity has been achieved by limiting the scope rather than by compact treatment. Discussions of the points that are included are adequately full and include numerous worked examples. The author, who is associated with the National Bureau of Standards, is a recognized expert on statistical methods, in addition to being a noted research chemist.

TOPOLOGY

EILENBERG SAMUEL AND NORMAN STEENROD

Foundations of algebraic topology Princeton, N J Princeton University Press 1952 328 p 24 cm. (Princeton mathematical series editors Marston Morse and A. W Tucker No. 15) $7.50 151

Contents: Axioms and general theorems. Simplicial complexes. Homology theory of simplicial complexes. Categories and functors. Chain complexes. Formal homology theory of simplicial complexes. The singular homology theory. Systems of groups and their limits. The Čech homology theory. Special features of the Čech theory. Applications to euclidean spaces. Index.

Note: An introduction to homology theory for advanced students of mathematics and graduate mathematicians who are familiar with the concepts of algebra and of point set topology. To use the authors' words "The principal contribution of this book is an axiomatic approach to the part of algebraic topology called homology theory. It is the oldest and most extensively developed portion of algebraic topology and may be regarded as the main body of the subject. The present axiomatization is the first which has been given. The dual theory of cohomology is likewise axiomatized.

LEFSCHETZ SOLOMON

Introduction to topology Princeton Princeton University Press 1949 218 p. illus. 24 cm. (Princeton mathematical series, edited by Marston Morse and others) $4.00 152

Contents: Introduction, a survey of some topological concepts. Basic information about sets, spaces, vectors, groups. Two-dimensional polyhedral topology. Theory of complexes. Transformations of complexes—simplicial approximations and related questions. Further properties of homotopy—fixed points—fundamental group—homotopy groups. Introduction to manifolds—duality theorems. Bibliography. List of symbols. Index.

Note: A text designed for the use of graduate students of mathematics. The first three chapters survey the basic concepts of topology with emphasis on the principles of algebraic topology. The remainder of the volume is concerned with the fundamentals of polyhedral topology. Because of the introductory nature of the book the author has not attempted to include proofs for all propositions. Review problems are given in each chapter and the references cited in the bibliography are limited to those which will be of value to the beginner in topology

STEENROD, NORMAN

The topology of fibre bundles. Princeton N J Princeton University Press, 1951 224 p illus. 24 cm. (Princeton mathematical series editors Marston Morse and A. W Tucker No. 14) $5.00 153

Contents (abridged): Part I, The general theory of bundles: Coordinate bundles and fibre bundles. The product bundle. The Ehresmann-Feldbau definition of bundle. Factor spaces of groups. Associated bundles and relative bundles. Homotopies of maps of bundles. Covering spaces. *Part II, The homotopy theory of bundles:* Homotopy groups. Universal bundles and the classification theorem. The fibering of spheres by spheres. The homotopy groups of spheres. The homotopy groups of manifolds. On the non-existence of fiberings of spheres by spheres. Part III, The cohomology theory of bundles: Bundles of coefficients. The obstruction cocycle. The primary difference of two cross-sections. The Whitney characteristic classes of a sphere bundle. Complex analytic manifolds and exterior forms of degree 2. Bibliography. Index.

Note: The concept of fibre bundles as a phase of algebraic topology was first enunciated in 1935. This treatise provides a systematic account of the development of the subject from then to the present time. It offers little that is new to mathematicians acquainted with the subject, but rather presents in organized form, the theory as it stands today. The author is Professor of Mathematics at Princeton University

WILDER, RAYMOND LOUIS

Topology of manifolds. New York American Mathematical Society, 1949 395 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXII) $7.00. 154

Contents: Elementary concepts; characterizations of E^n and S^n. Locally connected spaces; fundamental properties of the Euclidean n-sphere. Peano spaces; characterizations of P and the 2-manifolds. Non-metric LC spaces, with applications to subsets of the 2-sphere. Basic algebraic topology. Local connectedness and local co-connectedness. Application of homology and cohomology theory to the theory of continua. Generalized manifolds; dualities of the Poincaré and Alexander type. Further properties of n-GMs, regular manifolds and generalized n-cells. Subsemifields of manifolds; decomposition into cells. LC^n subsets of an n-GM. Accessibility and its applications. Appendix. Bibliography. Index.

Note: This is a self-contained book, which can serve as an introduction to topology. Properties of general topological spaces, compact spaces and continua, homology and cohomology theory of general spaces are developed, with applications to Euclidean spaces, local connectedness and continua. Manifolds are characterized axiomatically among the general topological spaces, the classical manifolds forming special cases of the generalized types. Basic duality theorems of the Poincaré and Alexander-Pontrjagin type are established, and both the local and in-the-large properties of manifolds studied.

GEOMETRY

ALBERT ABRAHAM ADRIAN

Solid analytic geometry New York Mc Graw-Hill Book Company Inc., 1949 162 p. illus. 24 cm. $3.50 155

Contents: Coordinates and lines. Planes. Surfaces and curves. Spheres. Quadric surfaces. Theory of matrices. Rotations of axes and applications. Spherical coordinates. Elements of projective geometry. Index.

Note: A textbook in which the author has used the algebraic vector approach to the subject in order to tie it up with the theory of vec

ASTRONOMY

GENERAL

BAKER, ROBERT H.

Astronomy a textbook for university and college students Fifth edition. New York D Van Nostrand Company, Inc., 1951 526 p illus 23 cm. $4 00 168

Contents: Aspects of the sky The earth in motion. Time and place. Light and the telescope. The moon. Eclipses of the moon and sun. The solar system. The other planets. The solar system, continued. The sun. The stars. Variable stars. Binary stars. Stellar atmospheres and interiors. Interstellar dust and gas. Star clusters. The galactic system. Extragalactic systems. Reference books. Index.

Note: (14th) A revised edition of this standard, introductory college textbook of which the first edition was published in 1930 and the fourth in 1944. The addition of information on such topics as meteors, microwave radiations from the sun, and circumstellar envelopes brings recent discoveries into focus and points up the problems that are undergoing investigation today Only an elementary knowledge of physics and mathematics is required for use of the book.

BUDDHUE, JOHN DAVIS

Meteoritic dust. Albuquerque The University of New Mexico Press, 1950 102 p. illus. 23 cm. (University of New Mexico Publications in meteoritics. No two A monograph of the Institute of Meteoritics of the University of New Mexico Lincoln LaPaz and Frederick C. Leonard, editors) 169

Contents (abridged) Historical review Methods of collecting dust. Types of particles. Size of particles. Physical tests. Chemical tests. The annual deposit. Dust in hail and snow Interstellar matter. The origin of meteoritic dust. The rate of fall of meteoritic dust. Appendixes: Details concerning spheroid particles. Localities where deep-sea spheres have been found. Bibliography

Note The brief historical review with which this study opens is summary with literature references of previous studies of meteoritic dust. From page 23 to the end of the volume the methods and results of the author's own studies are presented and are related to previous studies by other investigators. Detailed data on the aspects of the subject which are named in the contents above are presented and discussed. A bibliography of 108 literature citations and plates containing 16 photographs of dust specimens are included.

KROGDAHL WASLEY SVEN

The astronomical universe an introductory text in college astronomy New York The Macmillan Company 1952 599 p. illus. 24 cm. $6.25 170

Contents: Introduction. Part I, The solar system: How the system behaves. Earth and sky The moon. The planets. The lesser bodies of the solar system. Part II, The anatomy of star The sun. Part III, The stellar population: How do we know? The vital statistics of the normal stars. The peculiar stars. Part IV The organization of the universe: The Milky Way galaxy All else. Part The evolution of the universe: Beginnings and endings. Appendixes: The constellations. The magnitude system. Telescopes and observatories. Bibliography Index. Star maps.

Note. A textbook designed chiefly for college students who take courses in astronomy for its cultural rather than professional value. As might be expected, it contains no advanced mathematics, in fact, little mathematics of any kind. Nevertheless the author has succeeded well in describing the general content of astronomy showing how astronomers arrive at their principal deductions, and in conveying picture of the nature and complexities of the universe. The 375 illustrations include reproductions of some remarkable photographs taken at the Mt. Wilson-Palomar Observatory and other observatories.

LEE, OLIVER JUSTIN

Measuring our universe from the inner atom to outer space. New York The Ronald Press Company, 1950 170 p. illus. 22 cm. $3 00 171

Contents: The romance of distances. How our units of distance developed. Precision measuring machines. The magic of light waves. Man lives by parallax. Distance to the sun—yardstick of the gods. Our little solar system. Accuracy is like the flavor of costly wines. Private interviews with stars. Spectra yield the distances of stars. Michelson plays with light. Cepheid variables tell some secrets. The giant reflector of Palomar; the Hale telescope. Thinking it over. Appendix. Index.

Note: In this interesting book the author tells how units of measurement were evolved, conveys an idea of the importance of precision measurement, and describes the techniques that are used by scientists in making precise measurements. Most of his text pertains to measurement in astronomy but the book has appeal beyond the areas of this field. Lay readers of science should find it interesting, whether or not they are interested in astronomy The book replaces the author's *Beyond yonder* (Boston, 1930) and it contains much material not in that work.

MAYALL, ROBERT NEWTON, AND MARGARET L. MAYALL

Skyshooting, hunting the stars with your camera. New York The Ronald Press Company 1949 174 p. illus. 24 cm. $3 75 172

Contents. Looking it over Star trails. Auroras. Meteors. Stars. Variable stars—new stars—comets. Clusters and nebulae. The sun. The moon. The planets. Fun for the family Plates and films, developing, printing, enlarging. Sidereal (star) time. Mountings with mechanical drives. How to use the setting circles. Keeping records. Appendix. The library Index.

Note: An excellent book on subject which has seldom been treated from the standpoint of amateur photographers or astronomers. Considerable point is made of the fact that expensive photographic equipment is not essential. Only about fifteen pages are devoted to discussions of cameras, films, and related photographic apparatus. The remainder of the book deals with the categories of astronomical objects which are available for photographing, and with the simpler techniques of star photography which are within the reach of most amateurs. The junior author is on the staff of the Harvard College Observatory

NININGER, HARVEY HARLOW, AND ADDIE D NININGER

The Nininger collection of meteorites, a catalog and a history Winslow Arizona The American Meteorite Museum, 1950. 144 p. illus. 26 cm. $3 00 173

Contents: Introduction. Maps. Catalog. Field notes. Summary. Supplement. Appendix. Explanation of plates. Plates.

Note. Most of the space in this book is devoted to detailed listing of the meteorites in the Nininger collection, which is now known as the American Meteorite Museum. The descriptions are arranged by locality in which the specimens were found. In most instances the year of the find is given and there is always mineralogical designation, statement of the weight, and if more than one specimen is in the collection, statements of the weight of the various fragments. The word descriptions are supplemented by 18 plates of reproductions of photographs, most of which show

several specimens. Although essentially a catalogue of a museum collection, the book is also a unique record of the results of planned program aimed at discovering meteorites.

NININGER HARVEY HARLOW

Out of the sky an introduction to meteoritics. Denver The University of Denver Press, 1952 336 p. illus. 24 cm. $5 00 174

Contents (abridged) Early man and meteorites. Typical falls. The great meteor of March 24, 1933. Sound from passing meteors. Fireball clusters and processions. A planned program of search. Composition of meteorites. Etching and preservation. Size of meteorites. The great Greenland meteorites. Weathering of meteorites. Shapes and shaping. Meteorite craters. An explosion crater. Meteoritic clouds. Origin of meteorites. Cosmic heating. Tektites. Great meteorite collections. Proposed National Institute of Meteoritics. Publications by H. H. Nininger. Index.

Note: Detailed reports of observations of meteorites and meteors are combined in this book with specific data on composition, structures, weights, etc., of meteorites. The author is widely known as pioneer investigator of meteor phenomena and as collector of meteorites. He formed the Nininger Collection. In one of the chapters of this book he proposes national institute devoted to the study of meteoritics. The illustrations include 52 plates, most of which are reproductions of photographs of meteorites.

VAN DE KAMP, PETER

Basic astronomy New York Random House, 1952 400 p. illus. 21 cm. $3 75 175

Contents (abridged) Part one, A survey of the solar system: Sky and telescope. Matter and light. Sun, earth and moon. The planetary system. Part two, The mechanics of stars and planets: The earth as observational center of the universe. Motions of the planets as viewed from earth and sun. The motions of the stars. The mechanics of double stars. Kepler's laws of planetary motion. Newton's law of gravitation. The masses of earth, sun, moon, planets and stars. Part three, The physical-chemical properties of sun and stars: The composition of starlight. The nearest stars. Atomic structure and radiation. The atmospheres of sun and stars. The interiors of sun and stars. The source of solar and stellar energy Part four, The Milky Way system and beyond: The arrangement of the stars—the galactic system. Interstellar matter and the dimming of starlight. Patterns of stellar motions. The galactocentric viewpoint. The rotation of the galactic system. The extragalactic objects. A selected bibliography Index.

Note: An introductory survey that is so written and organized that it may be used either as text in college courses or as source of information for general readers. Not "popular" astronomy in the sense that the wonders of astronomy are stressed, it is nevertheless book that can be read by mature readers without the aid of an instructor. The bibliography includes books only and is intended for students and general readers who wish to pursue the subject by themselves. The author is Professor of Astronomy at Swarthmore College and Director of the Sproul Observatory

ASTROPHYSICS

GAMOW GEORGE

The creation of the universe. New York The Viking Press 1952 147 p illus. 22 cm. $3 75 176

Contents: Introduction. Evolution versus permanence. The great expansion. The making of atoms. The hierarchy of condensations. The private lives of the stars. Conclusion. Appendix. Index.

Note: The history and evolution of the universe is discussed in this book which rounds out the author's trilogy that began with *The birth and death of the sun,* which was followed by *Biography of the earth.* A lively style and easily understood analogies make the account available to all educated readers in spite of rather liberal use of technical terms. The book is an extreme popularization of very advanced data and theory but it is scientifically accurate and will appeal not only to lay readers but also to scientists reading outside their own fields.

HALL, JOHN SCOVILLE, AND A. H. MIKESELL

Polarization of light in the galaxy as determined from observations of 551 early-type stars. Washington United States Printing Office, 1950 62 p. illus. 29 cm. (United States. Naval Observatory Publications. Second series, vol. XVII, part I) 177

Contents: Introduction. Method of observation. Ritchey-Chretien aplanatic reflector. Apparatus. The observations: Earth's atmosphere. Color effects. Systematic differences. Internal agreement. List of observations. Summary of data. Comparison with observations of W. A. Hiltner. Discussion of data: Space distribution. Apparent magnitude. Galactic latitude. Color excess. Interstellar lines. Distance. Angular separation. Visual observation. Stars of special interest. Anomalous regions.

Note: Data collected in 1314 measurements of 551 stars are presented in this publication in two principal tables, the first of which is record of the individual observations and the second summary of the data. The first-mentioned table identifies the star by number, gives the date of the observation, the position angle and the percent of polarization. The following table includes further information on space distribution, magnitude, spectra type, color excess, etc. The tabulated data are discussed and compared with the results from other observers in the final 17 pages of the pamphlet. The work is of interest to professional workers in astronomy and astrophysics.

HYNEK, JOSEPH ALLEN, editor

Astrophysics. A topical symposium commemorating the fiftieth anniversary of the Yerkes Observatory and a half century of progress in astrophysics. New York Mc Graw-Hill Book Company Inc., 1951. 703 p. illus. 24 cm. $12.00. 178

Contents: Introduction: On the development of astrophysics during the last half century by B. Strömgren. Part one, Spectroscopic astrophysics: Classification of stellar spectra, by P C. Keenan and W W Morgan. Interpretation of normal stellar spectra, by L. H. Aller. The analysis of peculiar stellar spectra, by O. Struve. Molecular spectra in cosmic sources, by P Swings. The growth of our knowledge of the physics of the stars, by B. Strömgren. Part two, Physics of the solar system: The sun and stellar radiation, by E. Pettit. Comets, by N T Bobrovnikoff. On the origin of the solar system, by G. P Kuiper Part three, Physics of binary and variable stars: Visual binary stars and stellar parallaxes, by G. Van Biesbroeck. Spectroscopic binaries and stars with composite spectra, by J. A. Hynek. Eclipsing binaries, by M. L. Pierce. The intrinsic variable stars, by C. Payne-Gaposchkin. Part four, Physics of cosmic matter: Interstellar matter, by J. L. Greenstein. The structure, the composition, and the source of energy of the stars, by S. Chandrasekhar. Name index. Star index. Subject index.

Note: Each of the papers in this outstanding collection is the work of one or more scientists of international reputation, most of whom have been associated with the Yerkes Observatory Generally speaking, in each paper the development of specific area of astrophysics during the last half-century is outlined, its present state is described, and there is some discussion of problems that still challenge the scientists. The papers are addressed essentially to graduate students and young scientists who are beginning work in astrophysics.

KUIPER, GERARD PETER, editor

The atmospheres of the earth and planets. Revised edition. Chicago The University of Chicago Press 1952 434 p. illus. 24 cm. $8.50 179

Contents: Introduction, by G. P Kuiper. On the nature of the general circulation of the lower atmosphere, by C. G. Rossby Scattering in the atmosphere of the earth and planets, by H. C. van de Hulst. The upper atmosphere studied from rockets, by J. L. Greenstein and others. Seasonal variations in the density of the upper atmosphere, by F L. Whipple and others. The spectra of the night sky and the aurora, by P Swings and A. B. Meinel. The terrestrial atmosphere above 300 km., by L. Spitzer, Jr. Geological evidence on the evolution of the earth's atmosphere, by R. T. Chamberlin. Rare gases and the formation of the earth's atmosphere, by H. Brown. Selected topics in the infrared spectroscopy of the solar system, by A. Adel. On the presence of atmospheric ozone from infrared telluric bands, by M. V Migeotte. Spectroscopic observations of the planets at Mount Wilson, by T. Dunham, Jr. Planetary atmospheres and their origin, by G. P Kuiper. Laboratory absorption spectra obtained with long paths, by G. Herzberg. Appendix. Index.

Note: A collection of papers which were originally prepared for the Symposium on Planetary Atmospheres held at the University of Chicago in September, 1947 in connection with the fiftieth anniversary of the Yerkes Observatory Among the authors are prominent meteorologists, astrophysicists, and specialists in upper atmosphere research. Some of the experimental methods and results reported were not published previously to the appearance of this volume. In all of the papers the presentation is technical, hence the volume is of primary usefulness only to persons with scientific education pertinent to the field. The first edition appeared in 1949 For the present edition most of the authors revised their chapters and some made very substantial revisions.

THE STRUCTURE OF THE GALAXY a symposium held in connection with the dedication of the Heber Doust Curtis memorial telescope, June 22–24 1950 Ann Arbor, Michigan University of Michigan Press 1951 86 p illus. 32 cm. (University of Michigan. Observatory publications. Vol. x) Paper $2.50 180

Contents: Heber Curtis and the Michigan telescope, by J Stebbins. Galaxies—present day problems, by W Baade. Comparison of rotational motions observed in the spirals M31 and M33 and in the galaxy by N. U Mayall. Galactic distribution of planetary nebulae and Be stars, by R. Minkowski. Application of the principle of natural groups to the classification of stellar spectra, by W W Morgan. Distribution of early type stars of high luminosity near the galactic equator, by J J. Nassau and W W Morgan. Utilization of faint star counts at intermediate latitudes, by F D Miller Dynamical interpretation of velocity distribution and structural details in the galaxy, by B. Lindblad. Some features of galactic structure revealed by stellar motions, by A. N. Vyssotsky Recent investigations concerning the stellar luminosity function, by S. W McCuskey H-alpha emission objects in the Magellanic clouds, by K. G. Henize and F D. Miller. Comparison of the Magellanic clouds with the galactic system, by H. Shapley

Note: A collection of original papers presented—with one exception—at the symposium named in the title. The exception is the first paper which was delivered as an address on the occasion of the dedication of the Schmidt Telescope of the University of Michigan on June 24, 1950. "The collective contributions are intended to summarize the then existing state of knowledge concerning the broad outlines of the arrangement of the galaxy and to describe the methods now being employed for its advancement. The volume is of interest to graduate scientists working in the field of astronomy

STRUVE, OTTO

Stellar evolution an exploration from the observatory Princeton Princeton University Press 1950 266 p illus. 24 cm. $4 00 181

Contents: Probing the stars' chemical composition. Some problems of stellar evolution. The origin and development of close double stars. Index.

Note: A substantial contribution to the literature of astrophysics. Essentially it is an exploratory survey for theory or hypothesis that will explain the evolution of the stars in terms of the accumulated observational data. Earlier hypotheses are examined critically The author gives special attention to the ideas of von Weizsacker Unsold, and Ambartsumian among others, and also puts forth some tentative conclusions of his own. The style of the book is rather technical but, as the author points out, the work is not intended for astronomers but rather for such scientists as physicists and chemists who desire some insight into current astrophysical problems.

SUN AND SOLAR SYSTEM

BALDWIN RALPH BELKNAP

The face of the moon. Chicago The University of Chicago Press, 1949 239 p illus. 25 cm. $5.00 182

Contents: Scientists look at the moon. Surface features. Suggested crater-forming processes. Terrestrial meteorite craters. Fossil terrestrial meteorite craters. Relationships. Correlations. Evaluation. The lunar atmosphere. Ancient history The circular Maria. Other planets. Appendixes: Derivation of the relationship between the distance of the moon and geologic time. The lunar tidal bulge as function of the moon's distance. The penetrating power of projectiles. The diameters of the meteorites hich produced the craters. Bibliography Index.

Note: The greater part of this significant book is devoted to evidence in support of the theory which holds that the craters visible on the surface of the moon were made by explosions resulting from the impact of meteors. Other hypotheses, particularly those which attempt to explain the craters on the basis of volcanic action, are examined and their faults are pointed out. Much interesting information is included on related topics, such as the question of whether the moon has an atmosphere and the history and characteristics of craters on the earth which appear to have meteoritic origin. The work is addressed to both scientists and laymen. The author made no obvious effort to avoid technical terminology but both his subject and style are suited to serious general readers who are attracted to modern science.

MENZEL, DONALD HOWARD

Our sun. Cambridge Harvard University Press, 1949 326 p. illus. 22 cm. (The Harvard books on astronomy, edited by Harlow Shapley and Bart J Bok) $4.50 183

Contents: Meet the sun. A panoramic sunscape. Light, atoms, and test tubes. The message of sunlight. Solar chemistry Sunspots—solar cyclones. Fine details of the solar surface. Prominences—geysers and volcanoes. The corona mystery Atomic energy and the solar interior. Solar eclipses—old and new. The sun—and you! Index.

Note. What is known about the sun, how the knowledge was gained, and some of the applications and implications of this knowledge are the subjects of this book. It is written for the more advanced kind of lay reader who is not turned aside by some technical terminology Known solar phenomena are described and explained, usually in terms of atomic structure and behavior. A fair amount of tabulated reference material, such as table of solar eclipses, is included; and the principles of the chief astronomical instruments used for studying the sun are carefully explained. Fringe subjects, such as probable future uses of solar energy and the relation of sun spot cycles to human affairs, are discussed conservatively

MITCHELL, SAMUEL ALFRED

Eclipses of the sun. Fifth edition. New York Columbia University Press, 1951 445 p illus. 23 cm. $6.50 184

Contents: The beginnings of astronomy Biblical and classical eclipses. The prediction of eclipses. The verification of eclipses. The spectroscope. Eclipses before the year 1900. Personal experiences in 1900, 1901, and 1905. Eclipses from 1918 to 1929 Eclipses since 1930. The structure of the atom. Series relationships in spectra. Photographing the flash spectrum. Ionization and the flash spectrum. Solar problems and their interpretation through heights. The sun's reversing layer Coronal information obtained from eclipses. Our present knowledge of the corona. Solar problems solved and unsolved. Index.

Note: (448) A standard non-technical presentation of theory history, and observational techniques. It is addressed to the nonspecialists, especially to general readers and to scientists outside the field of astronomy who want reliable survey and book of reference. The fourth edition appeared in 1935. The work has been extensively revised in this edition. Although many pages shorter it contains much new information. The additional material is not limited to accounts of recent eclipses but includes also recent advances in the understanding of solar physics. Also, less space is given to observation of eclipses in ancient times and to details of the author's travels in connection with his own observations.

MOHLER, ORREN C. AND OTHERS

Photometric atlas of the near infra-red solar spectrum λ8465 to λ25,242 By Orren C. Mohler A. Keith Pierce, Robert R. McMath and Leo Goldberg. McMath Hulbert Observatory of the University of Michigan Ann Arbor University of Michigan Press 1950. 7 p., 117 leaves illus. 48 × 32 cm. Paper $4.00 185

Note: Except for an introduction in which instrumentation and recording techniques are described, this book consists entirely of graphs of tracings made at the Mount Wilson Observatory with an instrument set-up composed of Snow telescope and recording spectrometer, the sensitive element in the latter being lead-sulfide

photoconductive cell. The graphs are photo offset reproductions of the original records. The work is complementary to M. Minnaert and others, *A photometric atlas of the solar spectrum*, Amsterdam, 1940.

United States. Nautical Almanac Office

Coordinates of the five outer planets 1653–2060 By W J Eckert, Dirk Brouwer G. M Clemence. Washington United States Government Printing Office 1951 327 p 29 cm. (U S. Nautical Almanac Office. Astronomical papers prepared for the use of the American Ephemeris and Nautical Almanac. Vol. XII) o. p. 186

Contents: The differential equations. Method of integration. The machine calculation. Data recorded. Accuracy of the integration. Comparison with observation and constants of integration. Arrangement of the printed coordinates. Tabular comparisons. Table of Everett coefficients. Coordinates of Jupiter. Coordinates of Saturn. Coordinates of Uranus. Coordinates of Neptune. Coordinates of Pluto. Basic data.

Note: "This volume contains the heliocentric coordinates of Jupiter Saturn, Uranus, Neptune, and Pluto, at forty-day intervals from 1653–2060. They were obtained by numerical integration on the IBM Selective Sequence Electronic Calculator. These coordinates will be useful in discussing the motions of the planets themselves and in computing their effects on comets and other objects. —Preface.

Urey Harold Clayton

The planets their origin and development. New Haven Yale University Press, 1952 245 p. 25 cm. $5.00 187

Contents: The origin of the solar system. The moon. The terrestrial planets. Chemical processes during the formation of the planets. The heat balance of the earth. The abundances of the elements and the chemical composition of the solar system. Summary and conclusions. Appendices. Index.

Note: A new hypothesis pertaining to the formation of the earth and other solar planets is put forth in this book. The main points are in the author's words: "The earth and other terrestrial planets were formed at much lower temperatures than were generally thought to be the case up to the present time. A more uniform distribution of iron throughout the silicate phases of the earth existed in the past than exists now and the iron core of the earth has been formed at least partly during geologic time. A considerable part of the book is written in the terminology and concepts of physical chemistry and the author has sought theory that would accommodate such facts as the absence of dense cores in some planets and the widely varying chemical composition of the planets and satellites. The book is addressed to astrophysicists, physical chemists, and others with considerable education in the physical sciences.

STARS

Dugan, Raymond Smith, and Newton Lacy Pierce

Photometric researches, twenty four eclipsing variables. Observed by Raymond Smith Dugan and Newton Lacy Pierce. Arranged by Frank Bradshaw Wood. Princeton N J Published by the Observatory 1951 117 p. 32 cm. (Contributions from the Princeton University Observatory No 25) $3.00 188

Contents: Introduction. RT Andromedae. WZ Andromedae. XZ Andromedae. AA Andromedae. SU Aquarii. ZZ Aurigae. UW Bootis. SV Camelopardalis TT Ceti. U Coronae Borealis. RW Coronae Borealis. GO Cygni. 64 Eridani. RU Eridani. RW Geminorum. UV Leonis. RW Mon. EW Orionis. TY Pegasi. RT Persei. Y Piscium. AM Tauri. RW Ursae Majoris. AO Virginis.

Note: In this publication observed variations in light intensities for 24 systems of eclipsing variable stars are tabulated. The observations were made with the 23½ inch refractor and polarizing photometer of the Princeton University Observatory

Kopal, Zdenek

The computation of elements of eclipsing binary systems. Cambridge Massachusetts The Observatory 1950 181 p 27 cm. (Harvard University Harvard Observatory monograph number eight) Cloth $5.00 paper $4.00 189

Contents: Preface. Introduction. Observational data and their treatment. Computation of the intermediary elements. Differential corrections. Effects of orbital eccentricity. Computation of the elements of distorted eclipsing systems. Appendices: Solution of least squares systems and computation of the errors. Survey of the methods. Epilogue.

Note: Essentially this work is manual of methods of computation on desk-type computing machines—methods which have been developed since the semi graphical methods published by Russell and Shapley in 1912. It points the way to more precise calculations based on the more accurate observations of eclipsing binaries which the methods of photo-electric photometry have made possible. Some of the methods are new and tentative, while others have reached high state of development. The book is intended for graduate work ers in astronomy

Merrill, John Ellsworth

Tables for solution of light curves of eclipsing binaries coefficient of limb-darkening x = 0.0 x = 0.2, x = 0 4 x = 0 6, x = 0.8 Princeton New Jersey Princeton University Observatory 1950. 1 v in 5 parts. 30 cm. (Princeton University Observatory Contributions. No 23) Paper $15.00 190

Note These tables represent an extension and refinement of an earlier work initiated and published in 1912 by Henry N. Russell in *Astrophysical Journal*, v. 35 June, 1912. They are designed to assist astronomers and astrophysicists in determining the orbits of those stars which eclipse each other at every revolution. Four degrees of partial darkening are tabulated and the data are grouped according to darkening coefficient.

Olivier, Charles Pollard and others

Magnitudes and coordinates of comparison stars in 35 regions of variable stars and magnitudes of other variables. Philadelphia University of Pennsylvania Press, 1952 98 p 28 cm. (Publications of the University of Pennsylvania. Astronomical series. Vol. VII, part II) Paper $3.00 191

Note: A complementary work to the authors' *Magnitudes and coordinates of comparison stars in 32 regions of variable stars and magnitudes of 284 variables*, published in 1940 as Vol. part III of the same series. It contains the data derived from considerable range of additional observations. Data given include the photometric magnitude, visual magnitude, and an adopted magnitude for each of the comparison stars In addition, the booklet in hand contains section entitled "Naked-eye variables" in hich observations made by Olivier over long period of years of the magnitude of selected variable stars are tabulated.

Payne Gaposchkin Cecilia

Stars in the making. Cambridge Harvard University Press 1952 160 p illus. 25 cm. (The Harvard books on astronomy, edited by Harlow Shapley and Bart J Bok) $4.25 192

Contents: Introduction Cosmic evolution. Part one, The physical stars. Dust and atoms. Part two, The scene. Pairs of stars. Clusters of stars. Systems of stars. Part three, The drama: The ages of things. The evolution of galaxies. The evolution of the stars. Suggestions for further reading. Index.

Note: This book by an internationally famous contemporary astronomer is addressed to general readers and others who have

non-specialist interest in the stars. It presents vivid picture of what astronomers know at the present time about the behavior of stars and their evolution. The narrative is supplemented by 67 plates of reproductions of photographs of stars and galaxies. The bibliography is short edited list of books suitable for the further enlightenment of non-specialist readers.

RUSSELL, HENRY NORRIS, AND JOHN ELLSWORTH MERRILL

The determination of the elements of eclipsing binaries. Princeton, N J Published by the Observatory 1952 96 p illus. 31 cm. (Contributions from the Princeton University Observatory No 26) $5 00 193

Contents: Introduction. The spherical model. Chapter III, Part I, Nomographic solution; Part II, Determination of the solutions. The rectifiable model. Intermediary solutions. Miscellaneous notes. Precepts for the computer.

Note: A complementary work to Merrill, *Tables for solutions of light curves of eclipsing binaries*, described above, and to volume of nomographs published as number 24 of the same series. It is presentation of the theory and the computational techniques useful in the analysis of eclipsing binary phenomena and in the compilation of such aids as the tables and nomographs just mentioned. The third chapter on nomographic solutions is of special interest and this is the first publication of the method.

PHYSICS

GENERAL

BRIDGMAN, PERCY WILLIAMS

The nature of some of our physical concepts. New York Philosophical Library 1952 64 p. 24 cm. $2 75 194

Note: Three lectures delivered at the University of London in 1950 have been collected in this volume, after having been published in three 1951 numbers of the *British journal for the philosophy of science.* The lectures pertain to the contemporary school of physical thought that is usually designated as operational analysis or operational philosophy. The author is one of the principal contributors to this school, and in the book at hand he has both modified and extended some of his previous writings on the subject.

BRIDGMAN, PERCY WILLIAMS

Reflections of a physicist. New York Philosophical Library 1950 392 p. 23 cm. $5.00 195

Contents (abridged) Group I, General points of view: Operational analysis. Science—public or private? Freedom and the individual. Group II, Applications to scientific situations: The new vision of science. Permanent elements in the flux of present-day physics. Statistical mechanics and the second law of thermodynamics. The time scale. Group III, Primarily social: The struggle for intellectual integrity. Society and the intelligent physicist. Science and freedom—reflections of a physicist. Group IV Specific situations: "Manifesto by a physicist. Scientific freedom and national planning. Group Prophetic: The prospect for intelligence. New vistas for intelligence. Index.

Note: A collection of 23 nontechnical essays by a well-known scientist. All but three of them are reprinted from periodicals and other publications. Two of the papers deal explicitly with the author's "operational analysis," a concept which he applied first to the philosophy of science in his *The logic of modern physics* (1934) The book will appeal most to persons interested in the philosophy and social implications of science. However, the essays on scientific freedom and the potentialities of human intelligence are of interest to general readers.

DUSHMAN SAUL

Scientific foundations of vacuum technique. New York John Wiley & Sons Inc. 1949 882 p Illus. 24 cm. $15.00 196

Contents: Kinetic theory of gases. Flow of gases through tubes and orifices. Mechanical pumps. Steam-jet ejectors and mercury-vapor pumps. Vapor pumps using organic liquids. Manometers for low gas pressures. Sorption of gases and vapors by solids. Sorption of gases by "active" charcoal, silicates (including glasses) and cellulose. Gases and metals. Chemical and electrical clean-up of gases at low pressures. Vapor pressures and rates of evaporation. Dissociation pressures of oxides, hydrides, and nitrides and rates of oxidation. Significance of reference abbreviations. Name index. Subject index.

Note: Although pumps and other apparatus used in the production and measurement of high vacua are thoroughly described as to principles, characteristics and limitations, this book is not primarily a description of apparatus and its manipulation. Rather it is a presentation of fundamental information from the fields of physics, chemistry and metallurgy which has application to high vacuum technique. It is written on a professional level and is intended for scientists and engineers. There are numerous footnote references to the pertinent literature. It contains much more material than was contained in the author's *Production and measurement of high vacuum* (Schenectady N Y 1922).

EINSTEIN, ALBERT

The meaning of relativity Princeton N J Princeton University Press, 1950. 150 p. 21 cm. $2.50 197

Contents: Space and time in pre-relativity physics. The theory of special relativity. The general theory of relativity. Appendix for the second edition. Appendix II. Generalized theory of gravitation.

Note: One of the landmarks of modern knowledge. In this edition apparently no changes were made in the main body of the text nor in the first appendix. Only appendix II is new but it contains Mr. Einstein's general theory of gravitation, the purpose of which is to interrelate the observed phenomena of gravity, electromagnetic energy etc., in such a way that all physical phenomena can be explained in a single theory. The book is addressed to professional physicists whose mathematical knowledge and other training enable them to understand the mathematical expressions of relativity.

MARGENAU, HENRY

The nature of physical reality a philosophy of modern physics. New York McGraw Hill Book Company Inc., 1950 479 p. illus. 24 cm. $7.00 198

Contents (abridged) Ways of arriving at reality. What is immediately given? Departure from the immediate—constructs. Metaphysical requirements of constructs. Empirical confirmation. Space and time. Systems, observables, and states. Physics of discrete systems. Physics of continua. Thermodynamics. The role of definitions in science. Probability. Statistical mechanics. The breakdown of physical models. Basic ideas of quantum mechanics. Uncertainty and measurements. Causality. The exclusion principle. The contours of reality. Name index. Subject index.

Note: A significant contribution to the philosophy of science. The author states that he believes the attitudes of uncritical realism, unadorned operationalism and radical empiricism which pervade most of the discussion and much of the thinking on subjects of science, to be outmoded and in disharmony with the successful phases of contemporary physics. He defines reality in terms of "verifacts," which derive their validity from systems of experience rather than from the "pointer readings" of operationalism. The book is addressed more to physicists than to philosophers but it does contain thought of interest to the latter group too. It is arranged for use as a textbook in college courses, but it can be read independently by any reader who has a basic understanding of philosophical and physical terminology.

RAINICH, GEORGE YURI

Mathematics of relativity New York John Wiley & Sons, Inc., 1950 173 p. illus. 23 cm. $4 00 199

Contents (abridged) I, Old physics: Motion of a particle. The inverse square law. Two pictures of matter. Maxwell's equations. General equations of motion. The complete tensor. II, New geometry: Analytic geometry of four dimensions. Tensor analysis. Complications resulting from imaginary coordinates. Are the equations of physics invariant? Curves in the new geometry. III, Special relativity: Equations of motion. Addition of velocities. Light corpuscles or photons. The complete tensor. IV Curved space: Generalizations. The Riemann tensor. Tensors in general coordinates. Riemann tensor in general coordinates. Equations of physics in general coordinates. V General relativity: The law of geodesics. Solution of the field equations. Newtonian motion of a planet. Relativity motion of a planet. Deflection of light. Conclusion. Index.

Note: An introductory exposition of the mathematical concepts and techniques necessary to a full comprehension of relativity. The book is designed for upperclass and graduate college students majoring in mathematics or physics. The author is Professor of Mathematics in the University of Michigan, and the book is a development of a course which he has taught there for more than twenty years.

TEXTBOOKS

BERGMANN, PETER GABRIEL

Basic theories of physics mechanics and electrodynamics New York Prentice-Hall, Inc. 1949 280 p illus. 22 cm. (Prentice-Hall physics series Donald H. Menzel, editor) $7.35 200

Contents: Part I, Classical mechanics: Mechanics of mass points. Analytical mechanics. Matter in bulk. Summary of classical mechanics. Part II, Electrodynamics. Electrostatics and magnetostatics. Electromagnetic interaction. The electromagnetic field. Waves. Relativity. Optics. Conclusion. Further reading. Index.

Note. A brief textbook presenting the theoretical foundations of classical physics, that is, Newton's mechanics and Maxwell's electrodynamics, and tracing the development of classical physics through to the special theory of relativity. Attention is concentrated on physical ideas, and the mathematical techniques are considered as tools and discussed as needed. The work is intended for graduate students in theoretical physics. A companion volume is described above.

BROWN THOMAS BENJAMIN

Foundations of modern physics. Second edition New York John Wiley & Sons Inc. 1949 391 p illus 24 cm. $5.50 201

Contents. The elementary electric charge and the electron. Dimensions of atoms. The wave character of light. Polarized light. Electrical oscillations and electromagnetic waves. The electromagnetic spectrum—infrared light, ultraviolet light, and X-rays. Light particles and electron waves. The hydrogen spectrum and the hydrogen atom. Optical spectra and atomic structure. X-ray spectra and more about atoms. Molecular motions. Molecular energy. Crystals. Black-body radiation. Radioactivity. Nuclear discovery. Nuclear research. Nuclear energy. Cosmic rays. Epilogue. Appendices. Index.

Note. A textbook for college use in which the discoveries and theories of the past century which form the basis for present-day developments in physics are discussed. Emphasis is placed on experimental methods and only elementary mathematics is employed. This edition has been revised in the light of recent developments in the field, and the chapter on nuclear theory has been expanded to form three new chapters covering nuclear energy and its applications. Review problems and suggested readings are again included at the end of each chapter

CABLE, EMMETT JAMES, AND OTHERS

The physical sciences. By Emmett James Cable, Robert Ward Getchell, William Henry Kadesch, with chapters on astronomy by Harry E. Crull. Third edition. New York Prentice-Hall, Inc., 1951 496 p illus. (part col'd) 25 cm. $7.65 202

Contents (abridged) The dawn of science. Weights and measures. Energy utilized. Energy wasted. Force and motion. Fluids and fluid pressure. Building stones of matter. States of existence. The behavior of molecules. Heat as a form of energy. Our atmosphere. Winds and weather. Optical instruments. Spectra. Electrostatics and magnetism. Electric currents. Electrical communication. X-rays. Radioactivity. Some fundamental chemical processes. Ionization and equilibrium. Nitrogen and its compounds. The halogens. The classification of the elements. Sulfur. Some common metals. Organic and food chemistry. The earth and its rocks. Ground water and its work. Diastrophism, an ever-working process. Earthquakes and volcanism. The earth as an astronomical body. The moon and eclipses. Other members of the solar system. The sun and its radiation. The stars and nebulae. The Milky Way and extragalactic systems. Science and the world of tomorrow. Questions. References. Index.

Note (32) A survey of the physical sciences in language as non-technical as the subject matter permits. The book indicates the essential unity of the physical sciences and the pronounced effect they have had upon modern life. In the third edition the book has been given a larger and more attractive format, and the number of illustrations has been increased from 329 to 345. The section on astronomy has been completely rewritten, and the list of questions and problems has undergone revision. The work was particularly written for use in freshman survey courses in science in teachers' colleges. It may also be used to advantage by non-academic readers interested in an introductory view of the physical sciences.

HOLTON, GERALD

Introduction to concepts and theories in physical science. Cambridge, Mass. Addison-Wesley Press, Inc., 1952 650 p. illus. 22 cm. $6.50 203

Contents (abridged) Part A, The study of motion. Galileo and the kinematics of free fall. Projectile motion. Part B, The study of forces: Newton's laws of motion. Rotational motion. Part C, The laws of planetary motion and universal gravitation: The astronomy of ancient Greece. Copernicus' heliocentric theory. The nature of scientific theory. Kepler's laws. Galileo's contribution to astronomy. Newton's law of universal gravitation. Part D, On structure and method in physical science: Concepts. The growth of science. Part E, The laws of conservation. The law of conservation of matter. The laws of conservation of momentum. The law of conservation of energy. Part F, Origins of the atomic theory in physics and chemistry: The physics of gases and of heat. The atomic theory of chemistry. Part G, Quantum theory and the nuclear atom. Electrostatics. Properties of light. The quantum theory of light. Radioactivity and the nuclear atom. Bohr's model of the atom. Appendixes: Fundamental constants. Table of conversion factors. Alphabetic list of the elements. Periodic table of the elements. Summary of some trigonometric relations. Natural trigonometric functions. Common logarithms. Index.

Note: A new textbook which is designed for use in introductory college courses. Its organization and content reflect the critical examination of college instruction in science which has been going on in recent years under the leadership of James Bryant Conant. As the chapter titles show selected basic concepts from both classical and present-day physics are emphasized and there is also considerable discussion of the history of science and of scientific methods. The author is Assistant Professor of Physics and of General Education in the Physical Sciences in Harvard University

HULL GORDON FERRIE

Elementary modern physics. A revision of *An elementary survey of modern physics* New York The Macmillan Company 1949 503 p illus. 22 cm. $5.75 204

Contents Molecules. The electron, discovery. Radiation. The photoelectric effect. Orbits. Atomic spectra and the Bohr theory. X-rays. Electron tubes. Electric phenomena in gases and solids. The Zeeman and Raman effects. Radioactivity. Rutherford's discovery of transmutation of atoms. Cosmic rays, photons or particles? Transmutation of the elements. Waves and particles. Limitations imposed by nature. Fission discovered by Hahn and Strassmann. Appendix. Index.

Note: (387a) A well-written introduction to modern physics, suitable for students and other readers who have completed courses in basic physics. Such topics as light pressure, how the mean free path of molecules is calculated, and nuclear fission are discussed briefly and lucidly. The present edition includes much material that was not in the original edition published in 1936.

KOLIN, ALEXANDER

Physics its laws ideas and methods. New York McGraw-Hill Book Company Inc., 1950 890 p illus. 24 cm. $7.00 205

Contents Part A, Phenomenological approach to physics: Mechanics of points and of rigid bodies. Mechanics of fluids. Vector fields. Heat as a form of energy. Part B, Theoretical approach in physics using mechanical model theories: A mechanical explanation of heat phenomena. A mechanical explanation of electrical phenomena. A mechanical explanation of electromagnetic phenomena. Part C, Transition from mechanical model theory to an electromagnetic field theory: Periodic motion of matter and wave propagation in material media. Wave propagation in the hypothetical ether. Periodic motion of electric charges and propagation of electromagnetic waves. Part D, The failure of the classical mechanical and electromagnetic theories and the revision of the fundamental assumptions of physics. Inability of classical electrodynamics to explain emission and absorption of light. Replacement of deterministic description by statistical laws. Modification of our ideas on the immutability of elements and on the permanence of mass and energy. Revision of our concepts of space and time. Tables. References for further study. Index.

Note: An introductory textbook developed at the University of Chicago. The basic phenomena and laws usually presented in a textbook for first college courses are covered, but the applications introduced are largely biological. This emphasis and the attention given to the scientific method suit the book to the needs of

students whose main interest is biology or some area of science other than physics. However, the physics content of the book has not been skimped nor are physical ideas treated superficially

LINDSAY, ROBERT BRUCE

Concepts and methods of theoretical physics. New York D Van Nostrand Company Inc. 1951 515 p. 23 cm. $7 00 206

Contents: The nature of theoretical physics. Part I, Particle physics: Kinematics—the geometry of motion. Concepts of the theory of mechanics—the principles of dynamics. Motion of a particle in a straight line—oscillations. Motion of a particle in a plane. Motion of a collection of particles. Dynamics of a rigid body. Minimal principles—Lagrange's equations. The transformation theory of mechanics—atomic structure. Statistical mechanics and thermodynamics. Quantum theory. Part II, Field physics: Scalar and vector fields. Deformable material media and tensor fields. Wave motion in solid and fluid media. The electromagnetic field. Electromagnetic radiation. Electron theory and relativity. Problems. Index.

Note: This book is a text for upperclass undergraduate college students who are majoring in physics. The author has assumed that his readers will have completed courses in advanced calculus and elementary partial differential equations. For readers with the necessary preparation the book provides an introductory and fairly simple treatment of some of the basic ideas and the chief mathematical techniques of present-day physics.

MARGENAU, HENRY, AND OTHERS

Physics principles and applications, by Henry Margenau, William W Watson and Carol G. Montgomery New York McGraw Hill Book Company Inc. 1949 760 p. illus. 23 cm. $6.50. 207

Contents (abridged) The methods of physics. Introduction to mechanics; forces. Elasticity. Force and acceleration; dynamics. Dynamics of a rigid body. Oscillations. Hydrodynamics. Calorimetry. Properties of gases and vapors. The laws of thermodynamics. Meteorology. Dielectrics and capacitance. Electric currents. Magnetic fields and poles. Electronics. Wave motion. The nature of light. Optical instruments. Spectra and color. Diffraction. Nuclear physics. Appendixes. Index.

Note: A new textbook of considerable importance. In their preface, the authors—all members of the faculty of Yale University—state that their purpose is to present an account of physics which is "rigorous, vital, and modern. Most of the space is devoted to classical physics, as would be expected in an introductory work; but the main concepts of modern physics, including quantum mechanics, are introduced and explained at least briefly. Applications are described but are not emphasized. Calculus is employed in the exposition and the problems.

MENDENHALL CHARLES ELWOOD, AND OTHERS

College physics. Third edition. By C. E. Mendenhall, A. S. Eve, D A. Keys, and R. M. Sutton. Boston D C. Heath and Company 1950 657 p. illus. 24 cm. $6.00 208

Contents (abridged) Statics. Force and motion. Energy and power. Friction and machines. Rotation. Elasticity. Gravitation. Hydrostatics. Mechanics of gases. Properties of fluids. Vibrations and oscillations. Wave motion and sound. Applications of sound. The measurement of temperature. Kinetic theory of gases. Calorimetry. Transfer of heat. Change of state. Magnetism. Electrostatics. Condensers and capacitance. Current electricity. Magnetic fields and motion. Electromagnetic induction. Conduction of electricity through gases. Radio. The nature of light and photometry. Lenses. Optical instruments. Photoelectricity. Radioactivity. Atomic structure. Nuclear physics and atomic energy. Appendix. Answers to problems. Index to tables in text. Index to text.

Note: (1946) An introductory college text for students whose main interest in this subject is cultural. The mathematical requirements are simple. Readers' interests are stimulated by illustrations on almost every page and by mentions of applications of physical principles in familiar machines and devices. A substantial number of changes in the discussion, illustrations, and problems have been made in this edition.

MICHELS, WALTER CHRISTIAN, AND A. L. PATTERSON

Elements of modern physics. Illustrations by Richard Barbera and George Berk. New York D Van Nostrand Company, Inc., 1951 659 p. illus. 24 cm. $6.50 209

Contents (abridged) Length and time. Linear motions. Mass, momentum, and force. Motions in space. Some properties of matter. Mechanical energy. Wave motion. Thermal energy. Radiation. Optical instruments. Rotation. Fields of force. Electric currents and potentials. Molecules and atoms. The behavior and theory of gases. Electromagnetic induction. Atomic and nuclear structure. The behavior and theory of liquids and solids. Oscillations. Electromagnetic waves. Waves and particles. Atomic theory. Appendices. Index.

Note: A new textbook for college courses in which the authors have made a special effort to treat introductory physics from the viewpoint of present-day physicists. The conventional division into mechanics and electricity has been abandoned. Physics is presented as a unified body of thought in which there is no fundamental cleavage between classical physics and "modern" physics or between introductory physics or advanced physics. As an instance of the method may be cited the discussion of the speed of protons and the experimental methods of measuring this speed in chapter three. Throughout the book the authors use analogies which are very helpful in presenting physical concepts and facts as logical ideas. The book was developed at Bryn Mawr College where the first-named author is Professor of Physics.

SEARS, FRANCIS WESTON, AND MARK W ZEMANSKY

College physics. Second edition. Cambridge, Mass. Addison Wesley Press Inc. 1952 912 27 p. illus. (part col d) 24 cm. (Addison Wesley physics series Francis Weston Sears, consulting editor) $8.50. 210

Contents (abridged) Composition and resolution of vectors. Statics. Rectilinear motion. Newton's second law. Motion of a projectile. Work and energy. Impulse and momentum. Circular motion. Rotation. Elasticity. Harmonic motion. Hydrostatics. Hydrodynamics and viscosity. Temperature. Transfer of heat. The first law of thermodynamics. Thermal properties of matter. The second law of thermodynamics. Wave motion. Vibrating bodies. Acoustical phenomena. The electric field. Potential. Properties of dielectrics. Current and resistance. Principles of electrochemistry. The magnetic field. Induced electromotive force. Magnetic properties of matter. Capacitance and inductance. Alternating currents and electromagnetic waves. Electronics. The nature and propagation of light. Lenses and lens aberrations. Optical instruments. Illumination. Color. Interference and diffraction. Polarization. Spectra and atomic physics. Radioactivity and nuclear physics. Tables. Index. Answers to problems.

Note: (1947) A textbook for use in one-year courses. In it basic principles are developed with little attention to the practical applications or the historical background of the subject. Abridged from the author's *Principles of physics* which was developed for a two-year course in physics at the Massachusetts Institute of Technology the first edition of this title was published in 1947. The present edition includes newly added material on surface tension, the kinetic theory of gases, convection coefficients, acoustical phenomena, electricity and light, and a new set of problems.

SEMAT HENRY

Fundamentals of physics. Revised edition. New York Rinehart & Company Incorporated, 1951 849 p illus. 24 cm. $6.00. 211

Contents (abridged): Part I, Mechanics: Forces and equilibrium. Motion of a particle. Periodic motion. Work and energy. Fluids at rest. Fluids in motion. Properties of matter. Rotational motion. Part II, Heat: Heat and work. Kinetic theory of matter. Change of phase. Transfer of heat. Heat engines. Application to meteorology. Part III, Wave motion and sound. Part IV Electricity and magnetism. Magnetism. Electrostatics. The electric circuit. Electrochemical effects. Electromagnetic effects. Electromagnetic induction. Alternating currents. Electrical communication. Part V Light: Photometry. Reflection and refraction. Optical instruments. Light as a wave motion. Part VI, Atomic physics: Charged particles. Spectra and atomic structure. Nuclear physics. Appendixes: Tables. Glossary. Index.

Note: (135*) The first edition of this college textbook was the result of a planned effort to produce a small book in which brevity was achieved largely by selection of the topics to be discussed. In the present revision that idea has been abandoned and the book is comparable in scope to other introductory texts intended for courses of standard length. The emphasis is on basic principles and phenomena and applications are mentioned only incidentally. The author is Professor of Physics in the College of the City of New York.

WINANS, JOHN GIBSON

Introductory general physics. New York Ginn and Company 1952 765 p illus. 24 cm. $5 75 212

Contents (abridged) Words and measurements. The algebra and geometry of physics. Work and power. Efficiency of machines. Forces acting on liquids at rest. Gases. Molecular forces. Vectors. Vector equations and projectile motion. Newton's laws of motion. Rotational motion. Combinations of rotational and translational motion. Sound waves and their sources. Heat. The molecular theory of matter. Magnetism. Electricity in motion. Chemical effects of electricity. Magnetic effects of electric currents. Electric waves. Radio. The conduction of electricity through gases. The intensity of light. The velocity of light. Optical instruments. Color and the spectrum. Atomic energy. Appendix. Index.

Note: The first edition of a college textbook which has a number of notable features. The concept of a vector is introduced early and is employed throughout most of the book. The numerous illustrations are well chosen. Outstanding are the numerous graphical demonstrations of physical principles and the reproductions of photographs of physical experiments. Discussions of recently developed devices such as the transistor are included. Although typical applications are described, the book is not a descriptive text in the usual sense of that term. However the mathematics is simple. The author is Associate Professor of Physics in the University of Wisconsin.

WEIGHTS AND MEASURES

NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

Specifications tolerances, and regulations for commercial weights and measures and weighing and measuring devices. (Issued September 1, 1949) Washington D C. Government Printing Office, 1949 144 p 20 cm. (United States. National Bureau of Standards. Handbook 44 superseding Handbook 29) $1.25 213

Contents. Introduction. General code. Linear measures. Fabric-measuring devices. Tentative code for cordage-measuring devices. Taximeters. Odometers. Liquid measures. Graduates. Measure-containers. Milk bottles. Lubricating-oil bottles. Liquid-measuring devices. Grease-measuring devices. Vehicle tanks. Dry measures. Berry baskets and boxes. Scales: Application. Definitions. Specifications. Notes. Performance requirements except tolerances. Tolerances. Regulations. Weights. Sequential index.

Note: The specifications, tolerances, and regulations given in this handbook are recommended by the National Bureau of Standards for official promulgation in and use by the states of the United States of America in exercising their control of commercial weighing and measuring apparatus. The specifications, tolerances, and regulations comprise all of the current codes as adopted by the National Conference on Weights and Measures through 1949. Free correction sheets showing changes in and additions to the codes published in the handbook are issued from time to time conforming with the text of the handbook and printed only on one side of the page to simplify insertions. This handbook supersedes Handbook 29 published in 1943.

SMITH RALPH WEIR

Testing of measuring equipment. A manual for weights and measures officials. Issued May 15, 1951 Washington D C Government Printing Office, 1951 205 p. illus. 24 cm. (United States. National Bureau of Standards. Handbook 45) $1 25 214

Contents: Introduction. Inspection of measuring equipment. Adjustment, rejection, and sealing of measuring equipment. Linear measures. Fabric-measuring devices. Taximeters. Odometers. Liquid measures. Graduates. Measure-containers. Milk bottles. Lubricating-oil bottles. Liquid-measuring devices. Grease-measuring devices. Vehicle tanks. Dry measures. Berry baskets and boxes. Water, gas, and electricity meters.

Note: A manual for state and local weights and measures officials in which various types of commercial measuring equipment, the principles of their operation, and methods for their inspection and test are described. It is devoted primarily to procedures recommended for use by officials when exercising their routine regulatory controls over measuring equipment of all kinds. Testing procedures recommended are in general the minimum requirements considered necessary to enable the official to determine whether or not equipment should be approved for commercial use. This handbook is a companion volume to *Handbook 37 1945: Testing of weighing equipment.*

MECHANICS

BIRKHOFF, GARRETT

Hydrodynamics a study in logic, fact, and similitude. Princeton New Jersey Princeton University Press for University of Cincinnati, 1950 186 p illus. 22 cm. $3.50 215

Contents: Hydrodynamical paradoxes. Recent progress in free boundary theory. Modeling and dimensional analysis. Group theory and field mechanics. Virtual mass and groups. Bibliography. Index.

Note: An unusual book in which the author examines a number of noted paradoxes in fluid mechanics; shows "plausible reasoning" is not applicable in many hydrodynamic situations; discusses theory and practice in the use of models and the application of symmetry concepts; and then explores the applications of group-theoretic ideas to flow problems. The discussions are predominantly mathematical, and many of the ideas are original. The book is of interest to advanced workers in fluid mechanics, aeronautical design, etc.

CLEMENTS, GUY ROGER, AND LEVI THOMAS WILSON

Analytical and applied mechanics. Third edition. New York McGraw-Hill Book Company Inc., 1951 463 p. illus. 24 cm. $5.50. 216

Contents: Vectors. Concurrent forces. Coplanar forces—resultant. Coplanar forces—equilibrium. Framed structures and trusses. Forces in space. Cables. Center of gravity. Kinematics. Kinetics of a particle. Impulse and momentum. Dynamics of a body. Stress and strain. Beams. Struts and columns. Combined stress. Problems for review. Appendix. Answers to problems. Index.

Note: (193) An introductory text for use in college courses offered to students who are preparing to specialize in mechanical engineering or another division of engineering that requires a sound fundamental knowledge of mechanics. A fairly rigorous exposition of the basic mathematics and physics is combined with numerous worked examples. Though essentially the same as the text of the second edition published in 1943 revisions and additions have been made in numerous places. The authors are associated with the United States Naval Academy.

CORBEN HERBERT CHARLES, AND PHILIP STEHLE

Classical mechanics. New York John Wiley & Sons, Inc., 1950. 388 p. illus. 22 cm. $6 50 217

Contents: Kinematics of particles. The laws of motion. Conservative systems with one degree of freedom. Miscellaneous theorems on systems of particles. Lagrange's equations of motion. Applications of Lagrange's equations. Linear vector spaces. Small oscillations of conservative systems. Rigid bodies. Hamiltonian theory. Contact transformations. Contact transformations which simplify the equations of motion. Poisson brackets. Infinitesimal contact transformations. Further developments of transformation theory. Miscellaneous generalizations and analogues. Introduction to special relativity theory. The motion of particles in high energy accelerators. Index.

Note: A college textbook of interest to upperclass and graduate students who are majoring in physics. It presents the knowledge and concepts in classical mechanics which are valid and useful in present-day physics and affords a sound preparation for the understanding of quantum mechanics.

GOLDSTEIN, HERBERT

Classical mechanics. Cambridge, Mass. Addison Wesley Press Inc. 1950 399 p. illus. 24 cm. $7 50 218

Contents: Survey of the elementary principles. Variational principles and Lagrange's equations. The two-body central force problem. The kinematics of rigid body motion. The rigid body equations of motion. Special relativity in classical mechanics. The Hamilton equations of motion. Canonical transformations. Hamilton-Jacobi theory. Small oscillations. Introduction to the Lagrangian and Hamiltonian formulations for continuous systems and fields. Bibliography. Index of symbols. Index.

Note: A new presentation of classical mechanics for graduate students in physics. Instead of following the traditional pattern for this audience the author has selected those topics which are of greatest pertinence to modern physics. A further restriction is that such topics as elasticity which have already been thoroughly treated from the modern viewpoint in other books are not covered. The treatment assumes that the reader will have had courses in advanced calculus and analysis. The more difficult mathematical techniques such as matrix algebra are presented in the book itself.

GURNEY RONALD WILFRID

Introduction to statistical mechanics. New York McGraw Hill Book Company, Inc., 1949 268 p illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $6.00. 219

Contents (abridged): Groups of particles. The use of undetermined multipliers. The distribution of particles through alternative sets of energy levels. The partition function and properties of monatomic and diatomic gases. The relation between statistical mechanics and thermodynamics. Conditions of equilibrium for partially dissociated diatomic gas. Substitutional and interstitial solutions. The total energy shared by interacting particles. Classical mechanics. Vibration of molecules and of crystal lattices. The rotation of diatomic molecules. Particles in electric and magnetic fields. Appendix. Name index. Subject index.

Note: An attempt to simplify the exposition of statistical mechanics so that its chief concepts and methods will be available to scientists who are not professional mathematicians. The more abstract concepts are not introduced until the latter part of the book. In the first part the emphasis is on the mathematical techniques and some of their applications. Applications in chemistry and in physics are used throughout the book. The chapters are supplemented by problems for students to solve, but the work is intended for graduate students and graduate scientists already in industry rather than for undergraduates.

HALL, NEWMAN ARNOLD

Thermodynamics of fluid flow New York Prentice-Hall, Inc. 1951 278 p illus. 22 cm. $7.65 220

Contents: Introduction. Fluid friction. Energy and continuity. Momentum principles. Incompressible fluids. Perfect gases. Constant-area adiabatic flow. Varying area adiabatic flow. Shock regimes. Flow measurement and control. Diabatic flow. Propulsion systems. Appendixes: Conversion tables. Mathematical notes. Thermodynamic partial derivatives. Tables. Index.

Note: The combination of fluid mechanics and fluid flow is presented in this textbook to enable the student to grasp the fundamentals necessary to the analysis of fluid flow an understanding of which is important in chemical, aeronautical, and mechanical engineering. While the book includes some review of both fluid mechanics and thermodynamics, the author assumes that the reader will already have received fundamental training in the two fields separately. Theory is emphasized, with numerous examples showing the application of the theory in practical situations. Aside from its use as a textbook, the book can also be of some use as a reference source for engineers concerned with research and development in fields dependent on flow systems.

INGLIS DAVID RITTENHOUSE

Dynamic principles of mechanics. Philadelphia The Blakiston Company 1949 174 p. illus. 24 cm. $4.00 221

Contents: Kinematics of a particle. Dynamics of a particle. Coupled oscillators and normal coordinates. Inverse-square force and planetary motion. A dynamical system of several particles. Statics. Rotation of a rigid body. Impact. Index.

Note: A well-organized presentation intended for course use by advanced undergraduates and also by graduates who did not have a specialized course in dynamics as undergraduates. Previous courses in general physics and in calculus are assumed. It is designed as preparation for professional work in modern physics and chemistry; consequently, although the subject matter is all from classical physics, the treatment is such that the student is prepared, in habits of thinking at least, for the study of quantum mechanics. The author is Associate Professor of Physics at Johns Hopkins University

LINDSAY, ROBERT BRUCE

Physical mechanics an intermediate text for students of the physical sciences. Second edition. New York D Van Nostrand Company Inc., 1951 451 p illus. 22 cm. (University physics series, Leigh Page consulting editor) $5 00 222

Contents: The elemental concepts of mechanics. Rectilinear motion of a particle. Curvilinear motion in a plane. Energy in particle dynamics. Statics of a particle. Motion of a system of particles. Mechanics of a rigid body. Constrained motion. Oscillations. Deformable bodies and wave motion. Mechanics of fluids. Advanced mechanics. Index.

Note: (401) A substantial presentation of classical mechanics. Its primary use is as a textbook in courses offered to college students who are preparing for careers in physics and who have completed thorough courses in elementary physics and mathematics through calculus and introductory differential equations. The treatment is analytical and a considerable part of the exposition is expressed in mathematics. The first edition was published in 1933. In this edition discussions of several important topics have been reorganized and rewritten and a new chapter designed to give the student some idea of the scope of advanced mechanics has been added.

MOODY ERNEST A., AND MARSHALL CLAGETT

The medieval science of weights (Scientia de ponderibus) Treatises ascribed to Euclid, Archimedes, Thabit ibn Qurra, Jordanus de Nemore and Blasius of Parma. Edited with introductions, English translations, and notes, by Ernest A. Moody and Marshall Clagett. Madison The University of Wisconsin Press, 1952 438 p. illus. 24 cm. $5 00 223

Contents: General introduction, Part I, by M. Clagett—Part II, by E. A. Moody *Liber Euclidis de ponderoso et levi et comparatione corporum ad invicem*, edited by M. Clagett; introduction, translation and notes by E. A. Moody *Liber Archimenidis de incidentibus in humidum* (*Liber Archimenidis de ponderibus*) introduction by E. Moody and M. Clagett; text and translation by E. A. Moody; with additional variant readings by M. Clagett. *Liber de canonio* edited, with introduction, translation and notes, by E. A. Moody *Liber karastonis*, edited, with introduction, translation and notes, by M. Clagett. *Elementa Jordani super demonstrationem ponderum*, edited, with introduction, translation and notes, by E. A. Moody *Liber Jordani de ponderibus*, with another commentary (version "P") edited, with introduction, translation and notes by E. A. Moody *Liber Jordani de ratione ponderis*, edited, with introduction, translation and notes by E. A. Moody, with the assistance of R. Clements, A. Dobel, and J. L. Saunders. *Tractatus Blasii de Parma de ponderibus*, edited, with introduction, translation and notes by M. Clagett. Appendixes: A fragment of the Roman balance attributed to Euclid, edited by M. Clagett. Thomas Bradwardine's discussion of proposition one of the Liber de ponderibus, edited by E. A. Moody A fourteenth century commentary on proposition one of the Liber de ponderibus, edited by E. A. Moody A variant form of proposition eight of the Elementa Jordani, edited by M. Clagett. Variant readings. Sigla of manuscripts and editions. Critical notes. Bibliography. Index.

Note: In this work the medieval treatises named in the table of contents have been collected and translated into English. The book is organized so that the Latin text is printed on the left-hand page and the English translation on the right-hand page. The significance of the texts is discussed in the general introduction and also in the introductions to the separate works. The book as a whole represents a real contribution to the history of classical physics.

MURPHY, GLENN

Mechanics of fluids Second edition. Scranton, Pa. International Textbook Company 1952 309 p illus 25 cm. (International textbooks in civil engineering Benjamin A. Whisler consulting editor) $6 00 224

Contents: Properties of fluids. Fluids at rest. Buoyant forces. Flow of fluids. Uniform flow Non-uniform flow Forces developed by fluids in motion. Hydraulic machinery Unsteady flow Appendixes. Index.

Note: (406) In this introductory textbook basic principles underlying the behavior of fluids are presented for engineering students. Engineering applications are indicated and most of the problems pertain to such applications, but the emphasis is on the physical principles. Although about twenty pages shorter than the first edition published in 1942 material on such topics as torque converters and fluid couplings has been added. Several sections have been extensively rewritten.

STEPHENSON REGINALD JOSEPH

Mechanics and properties of matter New York John Wiley & Sons Inc., 1952 371 p. illus. 24 cm. $6.00 225

Contents: Kinematics. Force and motion of particles. Work and energy of particles. Newton's law of gravitation and some of its consequences. Free and forced harmonic oscillations. Translational and rotational motion of rigid bodies. Elasticity Statics. Hydrostatics and hydrodynamics. Wave motion. Problems Index.

Note. An intermediate-level textbook intended for college students who are majoring in physics or in engineering. More advanced aspects of mechanics are considered and the treatment of them is more rigorous than in elementary texts. On the other hand, the author has taken special pains to make the techniques and concepts clear Usually word explanation precedes the mathematical exposition and the expository material includes many fully worked examples.

STOKER JAMES JOHN

Nonlinear vibrations in mechanical and electrical systems. New York Interscience Publishers Inc. 1950 273 p 24 cm. $6.00 226

Contents (abridged) Linear vibrations Free vibrations of undamped systems with nonlinear restoring forces. Free oscillations with damping and the geometry of integral curves. Forced oscillations of systems with nonlinear restoring force. Self-sustained oscillations. Hill equation and its application to the study of the stability of nonlinear oscillations Appendices: Mathematical justification of the perturbation method. Bibliography Index.

Note Essentially this book is digest of the work done on linear vibrations from about the end of the nineteenth century when the fundamental contributions of Henri Poincaré were published, to about the end of 1930 together with selections from the significant work since that year. Applications of the mathematical techniques are indicated constantly; thus the book is of interest both to physicists and engineers who have sufficient knowledge of mathematics to follow the exposition It is also of interest to graduate students in mathematics and professional mathematicians who may wish to pursue research in the field

SYMPOSIA IN APPLIED MATHEMATICS

Proceedings Volume I Non-linear problems in mechanics of continua. New York American Mathematical Society, 1949 219 p 26 cm. $5.25 227

Contents: Hydrodynamics Non-linear problems in the theory of fluid motion with free boundaries, by A. Weinstein. Operator methods in the theory of compressible fluids, by S. Bergman. An existence theorem in two-dimensional gas dynamics, by L. Bers. Recent developments in free boundary theory by G. Birkhoff. Theory of the propagation of shock waves from cylindrical charges of explosive, by S. R. Brinkley Jr., and J. G. Kirkwood. The method of characteristics in the three-dimensional stationary supersonic flow of compressible gas, by H Cohen and C. L. Dolph. The numerical solution of the turbulence problem, by H. W. Emmons. On the stability of transonic flows, by Y H. Kuo. Stability of the laminar boundary layer in compressible fluid, by L. Lees. Remarks on the spectrum of turbulence, by C. C. Lin. Two-dimensional compressible flows, by L. Opatowski. Polygonal approximation method in the hodograph plane, by H. Polachek The boundary layer of yawed cylinders, by W. R. Sears. On shock-wave phenomena—interaction of shock waves in gases, by H. Polachek and R. J Seeger The breaking of waves in shallow water, by J. J Stoker On Hamilton principle for perfect compressible fluids, by A. H. Taub. Elasticity and plasticity: The foundations of the theory of elasticity, by F. D. Murnaghan. On dynamic structural stability by G. F Carrier Stress-strain relations for strain hardening materials, by D. C. Drucker The edge effect in bending and buckling with large deflections, by K. O. Friedrichs. Numerical methods in the solution of problems of non-linear elasticity by W Kaplan. Large deflection theory for rectangular plates, by S. Levy Discontinuous solutions in the theory of plasticity by W Prager. On finite deflections of circular plates, by E. Reissner

Note: Collected in this volume are the papers presented at the first Symposium in Applied Mathematics, held at Brown University in August, 1947 These symposia are the result of planned effort on the part of the American Mathematical Society to encourage activity in applied mathematics and to bring together mathematicians, physicists, engineers, and others professionally interested in the applications of advanced mathematics. This is the first publication for most of the papers, and for these the full text is given. Papers previously published elsewhere are given in abstract form.

QUANTUM MECHANICS

BOHM DAVID

Quantum theory New York Prentice-Hall Inc. 1951 646 p 24 cm. $10 65 228

Contents (abridged) Part I, Physical formulation of the quantum theory: The origin f the quantum theory Wave packets and De Broglie waves. The uncertainty principle. Wave vs. particle properties of matter Part II, Mathematical formulation of the quantum theory Wave functions, operators, and Schrödinger's equation. Fluctuations, correlations and eigenfunctions. Part III, Applications to simple systems. Solutions of wave equations for square potentials. The classical limit of quantum theory The harmonic oscillator Angular momentum and the three-dimensional wave equation. Matrix formulation of quantum theory Spin and angular momentum. Part IV Methods of approximate solution of Schrödinger's equation: Perturbation theory time-dependent and time-independent. Sudden and adiabatic approximations. Part V Theory of scattering. Part VI, Quantum theory of the process of measurement Relationship between quantum and classical concepts. Index.

Note. A relatively full introduction to the quantum theory for upperclass and graduate students majoring in physics. The author has made special effort to relate the concepts and laws of the quantum theory to classical physics and to the experiments upon which modern physics, particularly the quantum theory is based. However though extensive use is made of experimental results in the exposition, the mathematical aspects are not slighted. A short list of supplementary reading is given at the beginning of the book and there are occasional footnote references throughout the text.

FERMI ENRICO

Elementary particles New Haven Yale University Press 1951 110 p. 23 cm. $2.50. 229

Contents: Quanta of field as particles. Interaction of the fields. The interaction constants. Fermi, scheme, and anti scheme Appendices Quantization of the radiation field. Second quantization with Pauli principle. Measurability of the fields. Relativistic invariance. Relationships between interaction constants

Note. This book is in effect survey of current thought pertaining to the component particles of the atomic scheme and to their interactions Although it is based on the Silliman Memorial Lectures delivered by the author at Yale University in April, 1950, it is not addressed to the general public. Instead, the intended audience includes graduate students of physics and graduate physicists who are not specialists in nuclear physics but who desire some acquaintance with current concepts.

HOUSTON WILLIAM VERMILLION

Principles of quantum mechanics. Nonrelativistic wave mechanics with illustrative applications. New York McGraw Hill Book Company Inc. 1951 288 p. illus. 24 cm.

(International series in pure and applied physics, G P Harnwell, consulting editor) $6.00 230

Contents (abridged) Part I, General outline of quantum mechanics. Experimental necessity for the quantum theory Analysis of the inadequacy of classical mechanics. Formulation of quantum mechanics. The classical approximation. Motion of particle in central field. Approximate methods. Spin and the Pauli exclusion principle. Part II, Applications to spectroscopy Part III, Applications to collision problems. Part IV Applications to electrons in solids Quantum statistical mechanics. Behavior of an electron gas. Motion of an electron in periodic potential. Part Applications to electromagnetic radiation Quantization of electromagnetic radiation in empty space. Interaction of radiation and matter Mathematical appendix. Index.

Note: A comparatively short introduction to quantum mechanics. In addition to the quality of brevity the exposition tends to be clearer than in some lengthier texts. In the first three chapters series of noted experiments the results of hich illustrate the inadequacies of classical mechanics are described, the shortcomings of classical physics are further discussed, and we basic postulates of quantum mechanics, one for representing the state of system, the other for representing change in system when perturbed. Most of the remainder of the book is devoted to applications of these postulates to physical problems and systems. The book is for graduate students of physics who have had an introductory course in mathematical physics.

LANDE ALFRED

Quantum mechanics. New York Pitman Publishing Corporation 1951 307 p. illus. 24 cm. $5.50 231

Contents: The equivalence of waves and particles. The older quantum theory De Broglie waves—uncertainty. Elementary wave mechanics. Approximation methods. Matrix mechanics Nonconservative systems. Transitions in radiation. Spin and Pauli principle. Atomic and molecular spectra. Quantum statistics. The Dirac electron. The quantum theory of radiation. The meson theory of nuclear forces. Retrospect. Bibliography Index.

Note: An introductory work suitable chiefly for upperclass or graduate college students who are majoring in physics or mathematics. Essentially, the author's method is to develop the subject by painstaking analysis of notable experiments in physics, and to make these analyses in such way that they are related to classical physics with hich the student is presumably familiar Each chapter concludes with summary and finally there is summary of the entire book. *The author is Professor of Physics at Ohio State University*

PERSICO ENRICO

Fundamentals of quantum mechanics translated and edited by Georges M Temmer New York Prentice-Hall, Inc. 1950 484 p. illus. 22 cm. $8 00 232

Contents: Part I Historical development and experimental bases The atomic model. Energy quanta and light quanta. Energy levels. Quantum mechanics. Part II Wave mechanics of particle: Mathematical introduction. Probabilistic statement of atomic problems. One-dimensional problems. Three-dimensional problems. The Bohr-Sommerfeld theory Part III, General methods of quantum mechanics: Mathematical introduction. General theory of quantum mechanics. The matrix method. Perturbation theory Relativity and spin. Systems with identical particles. Bibliography Index.

Note: The first part of this book can be understood by practically anyone who has successfully completed an introductory course in college physics. The second part requires the mathematical knowledge that senior college student majoring in physics should have acquired. Although highly abstract mathematical methods have been avoided in the third part, the concepts of matrix algebra and Hilbert space are used, hence fairly high level of mathematical education is required to read it. The book can be used either as college textbook or as an introduction for persons out of college who have had the necessary training in basic physics and mathematics The author is Head of the Department of Physics of Laval University Quebec.

SCHIFF LEONARD ISAAC

Quantum mechanics. New York McGraw Hill Book Company Inc., 1949 404 p. illus. 23 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $6 00 233

Contents: The physical basis of quantum mechanics. The Schrödinger wave equation. Eigenfunctions and eigenvalues. Discrete eigenvalues: energy levels. Continuous eigenvalues: collision theory Matrix formulation of quantum mechanics. Approximation methods for stationary problems. Approximation methods for time-dependent problems. Identical particles and spin. Semiclassical treatment of radiation. Atoms, molecules, and atomic nuclei. Relativistic wave equations. The quantization of wave fields. Quantum electrodynamics. Index.

Note: A textbook designed for graduate and advanced undergraduate students who are preparing for professional work in physics. In the first chapter the author outlines the experimental evidence on hich quantum mechanics is based, criticizes the old quantum theory developed by Planck, Einstein, and Debye, and shows how quantum mechanics avoids the difficulty of the old theory The remainder of the book is devoted to the mathematical theories and techniques of quantum mechanics, and here the exposition is full and is supplemented by numerous worked examples.

SLATER JOHN CLARKE

Quantum theory of matter New York McGraw Hill Book Company, Inc. 1951 528 p. illus. 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $7.50. 234

Contents: De Broglie waves and wave mechanics. Schrödinger's equation. Average values and matrices. Perturbations and the action of radiation. The hydrogen atom. The central field model for atomic structure. Multiplet structure. The hydrogen molecule. Interatomic and intermolecular forces. The metallic state. Mechanical, chemical, and thermal properties of matter Electrical conductivity The nature of dielectrics. Magnetism. Appendices. Suggested references. Index.

Note. An introductory treatment of the quantum theory as it relates to the structure of atoms, molecules, and solids. One or two courses in basic mathematics at the college level on the part of the reader has been assumed. Most of the discussion is in narrative form rather than in mathematical equations. The book is addressed to advanced undergraduates and graduate students of chemistry metallurgy and physics It takes the place of the section on quantum mechanics in *Introduction to theoretical physics*, New York, 1933, by Slater and N. H Frank and forms part (though it can be read independently) of the expansion of that work into four volumes consisting of the present work and three others bearing the titles *Mechanics* by Slater and Frank, *Electromagnetism* by Slater and Frank, and *Introduction to chemical physics* by Slater alone.

ATOMIC AND NUCLEAR PHYSICS

ANNUAL REVIEW OF NUCLEAR SCIENCE. Volume 1 Stanford, Calif Annual Reviews, Inc., in co-operation with the National Research Council of the National Academy of Sciences, 1952 645 p illus. 23 cm. $6.00 235

Contents: Meson physics, by R. E. Marshak. Recent developments in the theory of nuclear structure, by E. Feenberg. Energy levels of light nuclei, by T Lauritsen. Nuclear moments, by N Ramsey Nuclear interactions of cosmic rays, by R V Adams. Mass and relative abundance of isotopes, by A. O Nier. High energy accelerators (standard cyclotron) by M. S. Livingston. High energy accelerators (synchrocyclotron) by M. S Livingston. High energy accelerators (proton synchrotron) by M. S Livingston. High energy accelerators (synchrotron) by J. E. Thomas, Jr. and others. High energy accelerators (linear accelerators), by J C. Slater. Detection of nuclear particles, by W H. Jordan. Chemistry of the actinide elements, by J. J Katz and W M. Manning. Electromagnetic separation of stable isotopes, by C. P Keim. Chemical separation of stable isotopes, by G. H. Clewett. Isotopic tracers in chemical systems, by R. R. Edwards Analytical nuclear chemistry, by C. J. Rodden Atomic and molecular spectroscopy by G. H Dieke. Low temperature phenomena, by C. T Lane. Progress in metallurgy by R. A. Rogers and F H. Spedding. Geochemistry by M. Fleischer and J. C. Rabbitt. Genetic effects of radiation, by E. F Kheling. Some aspects of the biological action of high energy radiations, by H. M. Patt. Radioisotopes in biochemical and medical research, by

C. A. Villee. Stable isotopes in biochemical research, by D. Rittenberg and T. D. Price. Radioisotopes in soils research and plant nutrition, by S. B. Hendricks and L. A. Dean. Indexes.

Note. The first volume of a new annual series the purpose of which is to survey significant developments in nuclear science. Developments during the year 1950 are emphasized, but few of the authors have confined themselves to this single year. In fact a number of the authors appear to have surveyed the literature from 1945 through 1950 and some have included a few papers published in 1951. Each of the chapters is essentially a literature digest and is supplemented by an extensive list of references. The series is sponsored by the Committee on Nuclear Science of the National Research Council. It is addressed to graduate scientists.

Bitter, Francis

Nuclear physics. Cambridge, Addison-Wesley Press, Inc. *1950* 200 p. illus. 23 cm. $5.50 236

Contents: The evolution of nuclear physics. Definitions and prerequisites. Protons, electrons, and quanta. Neutrons, neutrinos, and nuclei. Rays and beams. Masses and moments. Radioactivity. Nuclear reactions. The consequences of fission. Table of approximate values. Tables of conversion factors. Alphabetic list of the elements. Periodic table of the elements. A-W chart of nuclear data. Index.

Note: A college textbook designed for students who have already taken courses in introductory physics and in general atomic theory. Its scope is—as the title indicates—the physics of the nucleus. Cyclotrons and other machines for bombarding nuclei also are discussed briefly. The author is Associate Professor of Physics, Massachusetts Institute of Technology.

Blatt, John M., and Victor F. Weisskopf

Theoretical nuclear physics. New York, John Wiley & Sons. 1952. 864 p. illus. 24 cm. $12.50 237

Contents. General properties of the nucleus. Two-body problems at low energies. Nuclear forces. Two-body problems at high energies. Three- and four-body problems. Nuclear spectroscopy: I, General theory—II, Special models. Nuclear reactions: General theory—Applications of the theory to experiments. Formal theory of nuclear reactions. Spontaneous decay of nuclei. Interaction of nuclei with electromagnetic radiation. Beta-decay. Nuclear shell structure. Appendixes: A, Angular momentum operators and eigenfunctions—B, Multipole radiation. References. Index.

Note. Generally speaking the scope of this book is classical nuclear physics, or nuclear phenomena involving energies of about 50 Mev and below. Thus, cosmic rays and meson phenomena are not covered. Within this limitation the authors present the current theories, theoretical nuclear physics, and the experimental evidence which supports them, together with the pertinent mathematical formulas and manipulations. The book is addressed to graduate students of physics and graduate physicists already engaged in research. Readers need a previous introduction to quantum mechanics.

Bleuler, Ernst, and George J. Goldsmith

Experimental nucleonics. New York, Rinehart & Company, Inc. 1952. 393 p. illus. 24 cm. $6.50 238

Contents (abridged). Radiation protection. Laboratory equipment. Preparation of sources. Part I, General techniques: Technique of measurements with Geiger-Müller counters. Relative beta measurements. Absolute beta counting. Neutron activation of silver. The naturally occurring radioactive substances. Measurement of source strength by comparison with UX_2. Mean life of thermal neutrons in water. Absorption of continuous beta spectra. Absorption of gamma rays. Part II, Chemical techniques. Separation of active material by solvent extraction. The Szilard-Chalmers process with ethyl iodide. Separation by ion exchange. Electrochemical separations. Preparation of carrier-free source. Radioelements as tracers. Separation of nuclear isomers. Preparation of P^{32}. Measurement of C^{14} with an ionization chamber. Part III, Physical techniques. Range and energy loss of alpha particles. Tracks of particles in photographic plates. Scintillation counters. Coincidence measurements. Radiations of $Cs^{137}(Ba^{137})$. Cosmic rays. Appendix. Author index. Subject index.

Note: Primarily a laboratory manual for advanced college students who have acquired a fundamental knowledge of nuclear physics and chemistry. Specific procedures are described for 24 experiments, most of which can be performed with naturally radioactive materials. In each case the procedures are preceded by a thorough discussion of the points illustrated by the experiment together with their applications in nuclear physics and other fields of scientific investigation where radioactive materials are used. The authors are members of the faculty of Purdue University.

Cork, James Murle

Radioactivity and nuclear physics. Second edition. New York, D. Van Nostrand Company, Inc. 1950. 415 p. illus. 22 cm. $6.00. 239

Contents: Natural radioactivity. The detection of radiation. Induced radioactivity-apparatus. Alpha rays. Beta rays. Gamma radiation. Neutrons. Protons, deuterons, and tritons. Mesons (mesotrons). Cosmic radiation. Nuclear fission. Some applications of radioactivity. Health physics. Table of isotopes. References. Appendix: Fundamental constants. Useful information concerning electrons. Data on electrons. Useful information regarding protons in motion. Useful information regarding alpha particles. Excitation potentials for the elements, in kilovolts. Author index. Subject index.

Note: (1st) An introductory work designed primarily as a text for college students, but so organized and written that it is useful also to persons outside of college who have a moderate amount of technical education and are in need of a fairly substantial survey. Under each heading the historical background is sketched briefly then the current knowledge is summarized together with formulas and data. The first edition was published in 1947. This edition published only three years later contains much added information including the two new chapters on mesons and on health physics. The Table of Isotopes and the literature references have also been revised.

Dushman, Saul

Fundamentals of atomic physics. New York, McGraw-Hill Book Company, Inc., *1951* 294 p. *illus.* 24 *cm.* $6.00 240

Contents. A brief history of physics. Mathematical introduction. Kinetic theory of gases: molecular velocities. Kinetic theory of gases: mean free path and molecular diameter. Charge and mass of electron. Electronics. Photoelectric effect. X-rays. Bohr theory of the origin of spectral lines. Electron configurations in atoms and the periodic arrangement of the elements. Matter waves. Isotopes. Nuclear phenomena. Generators for acceleration of high-energy particles. Appendixes. Index.

Note. A book developed from material originally prepared to be used in short courses offered to high-school teachers of science under a program sponsored by the General Electric Company. The treatment is compact and a good deal of ground is covered. The reader needs a knowledge of basic physics and of elementary calculus, but aside from these requirements the book is not difficult to comprehend. It is suitable not only for teachers but also for such readers as engineers who want a fairly solid book for personal reading.

Finkelnburg, Wolfgang

Atomic physics, translated from the revised German edition in cooperation with the author by George E. Brown. New York, McGraw-Hill Book Company, Inc. 1950. 498 p. illus. 23 cm. (International series in pure and applied physics, G. P. Harnwell, consulting editor) $7.00 241

Contents (abridged). Introduction. Atoms, ions, electrons, atomic nuclei, photons. Atomic spectra and atomic structure. The atomic theory according to quantum mechanics. Nuclear physics. Molecular physics. Atomic physics of the liquid and solid state. Appendix: The most important constants and energy relations of atomic physics. Index.

Note: A comprehensive treatment of atomic and molecular physics designed for upperclass undergraduate college students who are majoring in physics and for graduate students. It should be useful also to physicists and chemists who completed their college studies before atomic physics was given its present emphasis. The chapters are supplemented by well-selected and rather extensive l… references. The first edition of the book was written in … published in Germany in 1948. The present edition … lated from the manuscript … of the revised German … the publication of

GLASSTONE, SAMUEL

Sourcebook on atomic energy New York D Van Nostrand Company Inc. 1950 546 p illus. 24 cm. $3 40 **242**

Contents: Foundations of the atomic theory. Constituents of the atom. Energy and radiation. The structure of the atom. Natural radioactivity. Measurement of radioactivity. Nuclear radiations. Isotopes. The acceleration of charged particles. Nuclear transmutation and artificial radioactivity. The neutron. Nuclear structure and nuclear forces. Nuclear fission. The utilization of nuclear energy. The new elements. The uses of isotopes. Cosmic rays and mesons. Radiation protection and health physics. Name index. Subject index.

Note: This book is not a popularization in the usual sense of the term, but is instead a reliable presentation in terms that such non-specialist readers as journalists, teachers, and industrial executives can understand. In each chapter the historical development of the particular facts under discussion is outlined, then a factual, reasonable detailed account of the present state of the subject is given, excepting, of course, information not yet released for publication by the Atomic Energy Commission. The names of scientists who have contributed to the development of atomic energy and the knowledge of the atom are mentioned frequently and are brought together in the author index; but there is no formal bibliography.

GRAVES ALVIN C., AND DAROL K. FORMAN, editors

Miscellaneous physical and chemical techniques of the Los Alamos project experimental techniques New York McGraw Hill Book Company Inc. 1952 323 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division v vol. 3) $4.25 **243**

Contents: Preparation of foils, by R. W. Dodson and others. Neutron sources, by A. C. Graves and others. The modulated betatron, by D. Kerst. Modulation and other techniques used with ion accelerators, by R. D. McDaniel and others. Topics on vacuum technique, by T. Snyder and D. Lipkin. Optical methods and instruments, by J. E. Mack. Index.

Note: Some of the techniques described in this book are similar to those already in fairly wide use in research laboratories. On the other hand, many of the techniques are original or were specially refined for use in the work of the Los Alamos project. The same is true of instruments and apparatus. For example, the chapter on vacuum techniques contains descriptions of four different pumps, two of which were special developments and two of which are commercially available. The book is of interest not only to research workers in the field of nuclear physics, but also to physicists and chemists working in a variety of research fields.

HALLIDAY DAVID

Introductory nuclear physics. New York John Wiley & Sons, Inc., 1950. 558 p. illus. 22 cm. $6 75 **244**

Contents. Basic nuclear concepts. Alpha and gamma emission. Electrons in disintegration processes. Interaction of charged nuclear radiations and photons with matter. Detection of charged particles and photons. Neutrons—production, detection, and interaction with matter. Nuclear masses, mass numbers, and mass abundances. Nuclear forces. Charged particle accelerators. Nuclear reactions. Nuclear fission. Cosmic rays. Nuclear spin and magnetism. Appendix. Author index. Subject index.

Note: A rather full and satisfactory presentation written in the terms of logical positivism or operational physics. Special attention has been given to indicate the experimental bases of theories, and the illustrations include many diagrams of experimental setups. Familiarity with algebraic computations has been assumed. However, the mathematics is not rigorous in the sense that derivations of all the equations are included. Related literature is cited both in the text and in footnotes, and the names of authors of cited articles are entered in the author index. The book is designed for upperclass and graduate students who have studied general physics.

LEVERENZ HUMBOLDT WALTER

An introduction to luminescence of solids. New York John Wiley & Sons, Inc. 1950. 569 p. illus. 24 cm. $15.00 **245**

Contents. The elements of matter and luminescence. Solids (crystals). Syntheses of luminescent solids (phosphors). Constitutions, structures, and energy levels of phosphors. Luminescence of phosphors. General properties of phosphors (résumé of useful phosphors). Uses of phosphors. Appendixes. Preparation of pure ZnS, CdS, and ZnSe. Properties of isolated and structurally adjacent impurity atoms, assuming a random distribution. Interconversion of some units of luminescence (surface brightness). General spectral characteristics of luminescence (radiance). Summary of some magnitudes and structures involved in the luminescence of solids. References. Formula index. Name index. Subject index.

Note: A systematic and inclusive presentation of theoretical and practical information on phosphors. It has been written for such persons as graduate physicists who are beginning to work in the field and for other nonspecialists who are familiar with basic physical concepts. The text is compact and is keyed to the bibliography which runs to 750 references. The author is associated with the RCA Laboratories and has himself made important contributions to the basic knowledge of the field.

MARSHAK ROBERT E.

Meson physics. New York McGraw Hill Book Company Inc., 1952 378 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell consulting editor) $7.50 **246**

Contents: Single production of π mesons in photon-nucleon collisions. Single production of π mesons in nucleon-nucleon collisions. Nuclear production of single π mesons. Properties of π mesons. The capture and absorption of slow negative mesons. Properties of the μ mesons. Nuclear interaction of fast μ mesons. Production of π mesons at relativistic nucleon energies. New particles and new processes. Name index. Subject index.

Note: A survey of the accumulated knowledge on the production, properties, and nuclear interactions of mesons. It is based on recent experiments and the source articles and reports are cited in footnotes. The author points out that he has restricted himself to "real meson processes," and has not attempted to cover virtual meson theory. The book originated in a series of lectures delivered at the University of Rochester and at Columbia University in 1950. However pertinent information published in the literature since 1950 has been added. The book is addressed to advanced graduate students and to graduate physicists working in research in nuclear physics. The name index includes the authors of all the cited papers, hence it can be used as a guide to the recent literature.

MONTGOMERY, DONALD JOSEPH X.

Cosmic ray physics based on lectures given by Marcel Schein at Princeton University with special contributions by Shuichi Kusaka and Niels Arley Princeton Princeton University Press 1949 370 p. illus. 24 cm. $5 00 **247**

Contents. Introduction, survey of the history of cosmic ray studies. Present status of cosmic ray investigation. Principles underlying operation of some cosmic ray apparatus. Experimental methods in cosmic rays. Intensity of cosmic radiation. The hard component. The soft component, by Niels Arley. Heavy particles in cosmic radiation. Appendixes: The simple Störmer theory of the motion of a charged particle in the field of a magnetic dipole. Definition of intensities. Results from statistical shower theory. Pressure-altitude tables. Curves connecting momentum with energy loss and range in air, aluminum, and lead, for electrons, mesons, and protons. Index.

Note: A survey designed as an introduction for intermediate and advanced students of physics. Most of the chapters are essentially digests of the published literature with references to the original sources included in the text. The chapters on apparatus and experimental methods contain discussions of the principles of apparatus used in investigations, the special problems of research in the field, and the experimental techniques, but they do not cover laboratory manipulations or the mechanical or electronic details of apparatus. Observed phenomena that have not yet been adequately explained are given considerable space, and references are made to articles in which the problems of their interpretation are discussed.

MOORE, CHARLOTTE EMMA

Atomic energy levels as derived from the analyses of optical spectra. Volume I The spectra of hydrogen deuterium, tritium, he-

lium, lithium, beryllium, boron, carbon, nitrogen, oxygen fluorine neon sodium, magnesium aluminum, silicon, phosphorus sulfur, chlorine, argon potassium, calcium, scandium, titanium and vanadium. Washington D C Government Printing Office, 1949 309 p 30 cm. (United States. Department of Commerce. National Bureau of Standards. Circular 467 issued June 15 1949) $2 75 248

—— —— Volume II The spectra of chromium manganese, iron cobalt, nickel, copper zinc, gallium, germanium arsenic, selenium, bromine, krypton, rubidium strontium yttrium, zirconium and niobium. Washington, D C Government Printing Office 1952 227 p. 30 cm. (United States. Department of Commerce. National Bureau of Standards. Circular 467 issued August 15, 1952) $2.25 249

Note: These are the first two volumes in series "being prepared at the National Bureau of Standards as part of general program on the compilation of atomic energy levels derived from analyses of atomic spectra. In most instances the data are taken from published literature and references to the source articles are given. However information from unpublished material also is included. The series is an indispensable reference work for atomic physicists, astrophysicists, and even for chemists interested in atomic structure.

OLDENBERG OTTO

Introduction to atomic physics. New York McGraw Hill Book Company Inc., 1949 373 p illus. 24 cm. $5 50 250

Contents (abridged) Part I, Structure of matter as revealed in chemistry Part II, Gases. Explanation of pressure and temperature. Mean free path and viscosity Masses and sizes of atoms, Avogadro's number Part III, Structure of electricity: Determination of /m. Determination of the charge on the electron Electrons in metals. Part IV Structure of light: Photoelectric effect and the quantum of light. Fundamental law of photochemistry Part Electronic structure of atoms. Nuclear atom as revealed by alpha-ray scattering. Spectrum of the hydrogen atom and Bohr's theory Methods of observation. Periodic table of elements. X rays. Part VI, Nuclear structure Isotopes. Natural transmutation and radioactivity Artificial transmutation and radioactivity Cosmic rays. Part VII, Wave nature of matter Survey of history and method. Appendices. Index.

Note A relatively simple treatment of fundamental atomic theory It is designed for college students who have not studied calculus and have had only one year of introductory physics. Its outstanding quality derives from the care the author has taken to describe the experiments and observations upon which modern knowledge of the atom is based. It has been developed from material used in an introductory course in atomic physics which the author has given at Harvard University for many years.

POLLARD ERNEST CHARLES AND WILLIAM L DAVIDSON

Applied nuclear physics Second edition. New York John Wiley & Sons Inc., 1951 352 p illus. 24 cm. $5.00 251

Contents Randomness, masses and atomic energy Properties of nuclear particles The detection of nuclear particles. Methods of accelerating atomic particles. Transmutation Radioactivity Technique in artificial radioactivity Artificial radioactivity in practice. Stable isotopes and their applications. Nuclear fission Nuclear chain reactions. Nuclear theory and cosmic rays Appendix Author index. Subject index

Note (423) The first edition of this book, published in 1942, was one of the few pre-World War-II books to include an account of nuclear fission. Though there are now many others that contain information on this subject, this work is still one of the most readable and useful texts. A good deal of new material has been added in this edition, including discussions of pile theory nuclear chain reactions, and an extensive table of data on isotopes. The book is written on the college level and is intended for students who have studied general physics.

RICE, FRANCIS OWEN, AND EDWARD TELLER

The structure of matter New York John Wiley & Sons, Inc. 1949 361 p. illus. 24 cm. (Structure of matter series edited by Maria Goeppert Mayer) $5 50 252

Contents Introduction. The hydrogen atom. The periodic system. Motion and position of nuclei in molecules. Atoms and molecules in electric fields. Van der Waals attraction forces. The chemical bond. Forces in the solid state. Magnetic properties of matter. Molecular vibrations. Electronic spectra. Nuclear chemistry State of matter in stars. Index.

Note In this work fundamental atomic phenomena and their grosser manifestations, such as spectra, chemical bonds, and magnetism, are explained in the concepts and terms of quantum mechanics. Thus it is both an exposition of modern atomic physics and an introduction to the applications of quantum mechanics. The presentation has been kept as simple as possible so that the book will be useful to chemists, engineers, and others who need non-specialist's knowledge of quantum mechanics. Within each chapter the exposition is developed under short sub-topics, an arrangement that facilitates comprehension and makes the book easier to use as reference aid or as "refresher.

ROSSI, BRUNO

High-energy particles New York Prentice-Hall Inc., 1952 569 p illus. 24 cm. (Prentice-Hall physics series Donald H. Menzel editor) $12.50. 253

Contents Introduction. Theory of electromagnetic interactions. Experimental methods. Elementary particles. Cascade showers. Experimental results on the electromagnetic interactions of high-energy particles in cosmic rays and from artificial sources. Nuclear interactions of high-energy particles from artificial sources. Nuclear interactions of cosmic rays. Appendices. Bibliography Index.

Note. Although most of the text of this book is written in narrative style, it is essentially reference book of the accumulated knowledge on the elementary particles of physics and on their behavior at high energies. Basic properties, phenomena, experimental methods, and useful formulas are included. Many data are assembled in tables or represented in graphs. The book is addressed to graduate students and research workers in nuclear physics, cosmic radiation, and related fields.

ROSSI BRUNO B AND HANS H. STAUB

Ionization chambers and counters experimental techniques New York McGraw Hill Book Company Inc 1949 243 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical sections. Division V—vol. 2) $3.25 254

Contents Behavior of free electrons and ions in gases. Operation of ionization chambers with constant ionization. Operation of ionization chambers with variable ionization. Gas multiplication. Beta-ray Gamma ray and X-ray detectors. Alpha particle detectors. Detectors for neutron recoils Detectors of (,α) and (,p) reactions. Fission detectors Appendix Index

Note Based on work done under the Manhattan District Project in connection with the development of the atomic bomb, this book presents—as do the others in the series—a selection of material which has potential nonmilitary uses and is of general scientific interest. The first four chapters deal with ionization phenomena and the general principles upon which detectors and counters are based. The remainder is devoted to descriptions of specific types of counters which were developed mainly at the Los Alamos Laboratory The volume is of interest to research chemists and physicists working with radio-active substances.

SACKS JACOB

The atom at work. New York The Ronald Press Company 1951 327 p illus. 24 cm. $4.00 255

Contents: On the nature of matter. Natural radioactivity; the story of radium. Matter, energy, and Einstein. Exploring the nucleus. Artificial radioactivity. Machines for modern alchemy. The neutron and the chain-reacting pile. How to trace the tracers. Isotopes in the chemical laboratory. Isotopes in the biology laboratory. Radioactive phosphorus, the ideal isotope. What radiation does to living beings. Radioactive isotopes in hospital and clinic. Isotopes in the world of plants. Isotopes go into business. Atomic warfare, past and future. Useful power as the ultimate goal. Index.

Note: A satisfactory popular account of progress in the understanding and application of atomic energy and artificial radioactivity. In the first three or four chapters the historical and scientific backgrounds are skillfully outlined, and the reader is provided with thumb-nail sketches of the contributions of Roentgen, Madame Curie, Bohr, Rutherford and many others. He is then introduced to atomic piles, radioactive isotopes, the atomic bomb and other potential radioactive weapons, and finally to atomic power. The book is for mature readers who want facts rather than sensation. The author is associated with the Brookhaven National Laboratory.

THORNDIKE, ALAN M

Mesons a summary of experimental facts New York McGraw Hill Book Company, Inc. 1952 242 p. illus 24 cm. (International series in pure and applied physics, G P Harnwell consulting editor) $5.50 256

Contents: Evidence for the existence of mesons. Properties of cosmic-ray mesons. New types of mesons. Artificially produced mesons. Decay of mesons. Interaction of mesons with matter. Production of mesons in cosmic radiation. Occurrence of mesons in cosmic radiation. Theory. List of symbols in equations. Name index. Subject index.

Note: The available knowledge on the existence and properties of mesons is presented in this book and this knowledge is directly related to the experiments from which it has been derived. Experimental techniques are at least outlined, but in most instances the reader is referred to the original publications for detailed descriptions. However, results are fully described and are integrated with the body of experimental knowledge. No attempt is made to present meson theory. Substantial lists of literature references are included in the chapters. The book is intended as an introduction to the subject for graduate college students majoring in nuclear physics, and the style of presentation is largely descriptive.

UNITED STATES. ATOMIC ENERGY COMMISSION

Control of radiation hazards in the atomic energy program. Washington D C. Government Printing Office, 1950. 230 p illus. 23 cm. Paper $0.55 257

Contents (abridged): Part one, Control of radiation hazards in the atomic energy program. Radiation safety—the problem, the program, and the record. Radiation safety in production operations. Safe handling of radioisotopes. Control of radiation in research and development. Environmental safeguards. Control of hazards at weapons tests. The AEC program for radiation control. Detection instruments for radiation protection. The costs of radiation protection. Part two, Highlights of progress in 1950. Appendices.

Note: Continuing the pattern of previous midyear reports to the United States Congress, this eighth semiannual report of the Atomic Energy Commission contains, aside from a summary of the major developments during the first half of 1950, a review in some detail of a major phase of the national atomic energy program, namely the control of radiation hazards. This information was published not only to inform the public generally but also to make available information useful in civil defense activities.

UNITED STATES NATIONAL BUREAU OF STANDARDS NUCLEAR DATA GROUP

Nuclear data. A collection of experimental values of half lives, radiation energies relative isotopic abundances nuclear moments, and cross sections compiled by National Bureau of Standards Nuclear Data Group Katharine Way [and others] (January, 1950) with assistance from Information Division, Brookhaven National Laboratory Chemistry Division University of California Radiation Laboratory Nuclear Chemistry Group, Massachusetts Institute of Technology Nuclear Data Committee Oak Ridge National Laboratory Washington D C. Government Printing Office, 1950. 309 p. and Supplements 1–3 illus, 29 cm. (United States. National Bureau of Standards. Circular 499) Paper $4.25 including supplemental service. 258

Contents: Explanation of tables: General. Neutron cross sections for natural elements. β and stable nuclei. β or active nuclei. Abbreviations. Indices to tables: Alphabetical index to elements. Atomic number index to elements. Index for chemical radioactive families. Tables. List of other collections of nuclear data. References.

Note: This set of tables is a large-scale beginning of a periodic attempt to enumerate and describe the known members of the nuclear population now numbering more than 1200 and still growing. In it are collected from various listed sources the pertinent information needed by research workers in the field of nuclear physics. To make the present story useful as a generator of new investigations and to question the validity of existing reports, similar information from different sources, even though in conflict, is presented where available without attempt to select "best values." Question marks placed after specific values and followed by a reference indicate doubt on the part of the experimenters as to the validity of the data. All values are documented by references. The arrangement of the tables is by elements according to their atomic numbers. The three supplements recording additional values were issued at 6-month intervals after the original data book. Text and tables are reproduced from typewritten copy.

YAGODA, HERMAN

Radioactive measurements with nuclear emulsions. New York John Wiley & Sons Inc., 1949 356 p illus 22 cm. $7 00 259

Contents: Photographic detection of nuclear particles. Comparison of scintillation and photographic methods. Laboratory manipulations. Alpha-particle patterns on nuclear emulsions. Quantitative aspects of the alpha-particle pattern. Radiochemical studies with nuclear emulsions. Alpha-particle patterns of uranium and thorium minerals. Alpha tracers in crystallography and metallurgy. Biological applications of alpha-particle tracers. Principles of beta-particle autoradiography. Applications of beta-ray patterns. Applications in nuclear physics. Bibliography. Appendices: Range-energy relations in Ilford nuclear research emulsions. Atomic constants and conversion factors. Author index. Subject index.

Note. A monograph on the use of photographic emulsions in the *detection, analysis, and measurement of radioactive radiation.* It is written on the research level and is intended for the information of biologists and physicists. Though the historical development is covered, the greater part is devoted to techniques, which are described in adequate detail for practical laboratory use. The book is based on an extensive literature survey. Keyed references to sources are incorporated in the text.

SOUND

BERANEK, LEO LEROY

Acoustic measurements. Prepared under the auspices of the Office of Naval Research Navy Department, Washington, D C New York John Wiley & Sons Inc., 1949 914 p. illus. 22 cm. $7 00 260

Contents: Introduction and terminology. The medium. Disturbance of plane sound waves by obstacles and by finite baffles. Primary techniques for the measurement of sound pressure and particle velocity and for the absolute calibration of microphones. Microphones and ears. Measurement of frequency. Measurement of acoustic impedance. The audiometer. Sound sources for test purposes. Characteristics of random noise; the response of recorders to random noise and complex waves. Indicating and integrating instruments for the measurements of complex waves. Analyses of sound waves. Basic tests for communication systems; the rating of microphones, amplifiers, and loudspeakers. Tests for laboratory and studio microphones. Tests for loudspeakers. Testing of communication sys-

tem components. Articulation test methods. Measurement of the acoustic properties of rooms, studios, and auditoriums. Measurement of acoustical materials. The sound level meter. Author index. Subject index.

Note: A comprehensive reference book written on the graduate-professional level. It is designed as an aid "to five main groups of research workers; the acoustic physicist making fundamental laboratory measurements, the communications engineer measuring and evaluating the performance of audio communications systems, the psychologist performing measurements involving the human hearing mechanism, the otologist studying hearing defects and, finally the industrialist applying acoustic measuring techniques in manufacturing processes.

CARLIN BENSON

Ultrasonics New York McGraw Hill Book Company Inc., 1949 270 p illus. 24 cm. $5 50 261

Contents: Ultrasonic waves. Ultrasonic waves: further theory. Crystals for ultrasonic use. Crystal holders for ultrasonic use. Resonance and reflection. Continuous-wave ultrasonic systems. Pulsed ultrasonic systems. Ultrasonic agitation. Magnetostriction. Practical considerations in the application of ultrasonics. Index.

Note: A survey of the basic phenomena of radiation in the ultrasonic range and of some of the applications. The author has done extensive experimentation in the field himself, and the book incorporates results of his own work as well as the published results of others. It is especially useful for its descriptions of fundamental apparatus such as crystal holders and basic circuits. The book is suitable as an introduction for such readers as scientists seeking information outside the field of their own specialties. Also it can be read by laymen who have an acquaintance with basic electronic terminology

OLSON HARRY FERDINAND

Musical engineering an engineering treatment of the interrelated subjects of speech, music musical instruments acoustics, sound reproduction and hearing. New York Mc Graw Hill Book Company Inc. 1952 369 p illus 24 cm. $7 00 262

Contents. Sound waves. Musical terminology Musical scales Resonators and radiators. Musical instruments. Characteristics of musical instruments. Properties of music. Theater, studio, and room acoustics. Sound reproducing systems Index.

Note: A synthesis of psychological, physical, and technical information that bears on music, its reproduction and hearing. The synthetic approach makes the book potentially useful to wide variety of readers including musicians interested in the technical and psychological aspects of their art, architects and engineers concerned with acoustics, and amateurs and professionals interested in sound reproduction The chapter on musical instruments contains descriptions of not only the better known instruments but also of such devices as music boxes and electrical carillons. Discussions of microphones, loudspeakers, telephones, disc phonographs, and hearing aids are included in the chapter on sound reproducing systems. The author is Director of the Acoustical Laboratory of RCA Laboratories.

THERMODYNAMICS AND HEAT

BERGMANN PETER GABRIEL

Basic theories of physics heat and quanta. New York Prentice-Hall, Inc. 1951 300 p. illus. 22 cm. (Prentice-Hall physics series Donald H Menzel, editor) $7.35 263

Contents. Part I, Heat. The kinetic hypothesis Statistics in physics. Stationary ensembles. Thermodynamics, the first law Thermodynamics, the second law Thermodynamics, statistical mechanics, and heat-death Part II, Quanta Summary of classical statistical mechanics. Early quantum theories. Atomic spectra. Probability waves. Quantization in wave mechanics. Approximation methods. The abstract theory Summary and outlook. Further reading. Index.

Note. A textbook for graduate students in theoretical physics. The purpose of this and the companion work described below is to introduce students to "the fundamental ideas on which they can build up the detailed technical knowledge required of the modern practicing physicist. This book deals with the invasion of theoretical physics by the atom, Part I being devoted to the classical theory of heat from statistical point of view Part II being an introduction to quantum mechanics based on historical lines.

CAMPBELL CHARLES H.

Modern pyrometry New York Chemical Publishing Company 1951 150 p. illus. 23 cm. $4.00 264

Contents: Types and uses of thermocouples, lead wires, and protection tubes. Temperature indicators, recorders, and controllers. Other methods of temperature measurement and control. Applications, care and maintenance of pyrometers. References. Appendix. Index.

Note A brief but useful survey of currently used methods and instruments for the measurement of high temperatures. It is based on lecture prepared for delivery before meeting of the American Society for Metals. Instruments used in the measuring and recording of temperatures in the metallurgical industries are emphasized. The book is designed for beginners in the metallurgical industries and other persons who need practical introduction.

LONDON, FRITZ

Superfluids. Vol. I Macroscopic theory of superconductivity New York John Wiley & Sons Inc., 1950 161 p illus. 24 cm. (Structure of matter series Maria Goeppert Mayer advisory editor) $5 75 265

Contents. Some properties of superconductors and their thermodynamical correlation. The electrodynamics of the pure superconducting state. The intermediate state. The phase transition into the superconducting state reconsidered. Program for the molecular theory of superconductivity Name index. Subject index

Note. The first volume of detailed presentation of an electrodynamics of superconductivity developed by the author and his brother in 1934 The main postulate of the theory is new relation between magnetic field and electric current which in superconductors replaces Ohm's law The work is of interest to physicists, especially those doing research in the low temperature field and those who specialize in quantum mechanics.

SEARS FRANCIS WESTON

An introduction to thermodynamics the kinetic theory of gases and statistical mechanics. Cambridge Addison Wesley Press, Inc., 1950 348 p illus. 23 cm. (Addison Wesley physics series Francis Weston Sears, consulting editor) $6 50 266

Contents. Thermodynamic systems. Equations of state. Work. The first law of thermodynamics. Some consequences of the first law Changes of phase. The second law of thermodynamics. Entropy. Combined first and second laws. Some engineering applications of thermodynamics. Kinetic theory of an ideal gas. The distribution of molecular velocities. Transport phenomena. The Maxwell-Boltzmann statistics. Applications of statistical theory Quantum statistics. Low temperature physics.

Note A college textbook originally written for use in course given by the author to students of electrical engineering at the Massachusetts Institute of Technology The treatment assumes fair degree of maturity in physical and mathematical thinking. The discussions are clear compact, and are amply supplemented by worked examples and diagrams. In addition to its intended use, the book should be of interest to persons with scientific education who desire short discussions of such topics as quantum statistics, superconductivity and magnetic cooling.

SHENKER HENRY AND OTHERS

Reference tables for thermocouples, by Henry Shenker John L Lauritzen Jr., and Robert J Corruccini. Washington, D C. Government Printing Office 1951 71 p. 26 cm. (United States. National Bureau of Standards. Circular 508) Paper $0.35 267

Contents: Introduction. Part I, Celsius (centigrade) tables: Platinum versus platinum-10-percent rhodium thermocouples. Platinum

versus platinum-13-percent rhodium thermocouples. Chromel-alumel thermocouples. Copper-constantan thermocouples. Chromel-constantan thermocouples. Part II, Fahrenheit tables: Platinum versus platinum-10 percent rhodium thermocouples. Platinum versus platinum-13-percent rhodium thermocouples. Chromel-alumel thermocouples. Copper-constantan thermocouples. Chromel-constantan thermocouples.

Note: A compendium of reference tables for all the common commercial thermocouples. The tables are expanded from earlier similar tables published by the National Bureau of Standards and incorporate recent changes in electrical units and temperature scale. Electromotive force is expressed in absolute units and temperatures are expressed on the International Temperature Scale of 1948. References are given for the sources on which the tables are based. Revised tables for iron-constantan thermocouples are to appear in separate publication.

SYMPOSIUM ON LOW TEMPERATURE PHYSICS

Low-temperature physics. Proceedings of the NBS Semicentennial Symposium on Low-Temperature Physics held at the NBS on March 27 28 and 29 1951 Washington, D C. Government Printing Office, 1952 291 p. illus. 24 cm. (United States. National Bureau of Standards. Circular 519) $1 75 268

Contents: Theory of the superconducting state, by H. Fröhlich. Superconductivity and lattice vibrations, by J. Bardeen. On the nature of the superconducting transition, by L. Tisza. Field theoretic description of interactions in superconductor by M. Dresden. Determinantal eigenfunctions for the theory of superconductivity by W Band. Superconductivity of isotopes of mercury and tin, by C. A. Reynolds and others. Recent work at the National Bureau of Standards on the isotope effect, by E. Maxwell. Superconductivity of the isotopes, by J. M. Lock and others. Superconductivity at the Clarendon Laboratory by K. Mendelssohn. Heat transfer in superconducting alloys, by J. K. Hulm. Experiments on the magnetic transition from the superconducting state to the normal state, by M. P Garfunkel and B. Serin. New experiments on the superconductivity of metal-layers condensed at low temperatures, by R. Hilsch. Kinetics of the superconducting phase transition, by T. E. Faber. Superconducting properties of indium-thallium alloys, by J. W Stout and L. Guttman. Investigations of superconductivity in lead compounds, gold alloys, and molybdenum carbide, by R. P Hudson and K. Lark-Horovitz. Superconductivity in MgTl and LiBi, by L. Guttman and J W Stout. New superconducting compounds, by B. T Matthias and J. K. Hulm. Occurrence of superconductivity below 1°K, by B. B. Goodman. Penetration of magnetic field into thin superconducting films, by J. M. Lock. Magnetic properties of hollow superconducting lead spheres, by J Babiskin. Studies on oscillating superconducting spheres, by R. H. Fry and others. Eddy currents and supercurrents in rotating metal spheres at liquid helium temperatures, by P R. Akers and others. Atomic heat of indium at liquid-helium temperatures, by J. R. Clement and E. H. Quinnell. Specific heat of niobium at various temperatures, by A. Brown and others. High-frequency resistance of tin, lead, and indium, by C. J. Gorterkamper and J P Hagen. Detection of microwave signals by NbN superconductors in the transition region, by J. V Lebacqz and M. G. Bodmer. Properties of liquid He^3-He^4 mixtures, by J G. Daunt and C. V Heer. Phase diagram of dilute solutions of He^3 in He^4 below the lambda point, by H. S. Sommers, Jr. A Bose-Einstein model of liquid helium applied to solutions of He^3 in He^4 by W Good. Solidification of He^3 by D. W Osborne and others. Liquid helium research in the Royal Society Mond Laboratory by K. R. Atkins and others. Propagation of second sound below 1°K, by D. V Osborne. Pressure dependence of second-sound velocity in liquid helium II, by R. D. Maurer and M. A. Herlin. The thermal Rayleigh disk in liquid helium II, by J R. Pellam and W B. Hanson. Apparatus for measuring the pressure dependence of the viscosity of liquid helium, by H. H Kolm and M. A. Herlin. Remarks on scattering of slow neutrons by liquid helium, by L. Goldstein. Flow properties of helium II, by K. Mendelssohn. Transport rates of the helium II film over various surfaces, by J G. Dash and H. A. Boorse. Adiabatic oscillations in liquid helium, by J. E. Robinson. Helium II films, by D. G. Henshaw and L. C. Jackson. Some preliminary thermodynamic studies on helium adsorbed on titanium dioxide, by J. G. Aston and S. V R. Mastrangelo. Thermal conductivity of liquid helium I, by C. Grenier. Evaporation rate of liquid helium I, by A. Wexler. Methods of determining very low thermodynamic temperatures; measurements with potassium-chromium-alum, by D. de Klerk. Behavior of single crystals of cobalt-ammonium sulfate below 1°K, by S. Malaker. A new effect found in paramagnetic crystals below 100 millidegrees absolute: the critical-field curve bounding the antiferromagnetic state, by C. G. B. Garrett. A new experimental method for the measurement of temperature and entropy at and below 1°K, by L. D. Roberts and J W T Dabbs. Some laboratory aids to cryomagnetic research, by W E. Henry. Current sensitivity and other characteristics of metal films at low temperatures, by A. van Itterbeek. The electric conductivity of graphite at liquid helium temperatures, by L. Meyer and others. Normal conductivities at low temperatures, by K. Mendelssohn. Infrared absorption by metals at low temperatures, by K. G. Ramanathan. The de Haas-van Alphen effect, by D. Shoenberg. Approximate calculations of the surface impedance of metal in the anomalous region, by P M. Marcus. Magneto-resistance of superconducting mercury, by T G. Berlincourt and C. T Lane. Magnetic susceptibility of liquid nitric oxide and the heat of dissociation of $(NO)_2$ by A. L. Smith and H. L. Johnston. Heat capacity of solid deuterium from 1.5° to 12°K, by O. D. Gonzalez and others. Compressibility of liquid normal hydrogen from the boiling point to the critical point at pressures up to 100 atmospheres, by W E. Keller and others. Elastic constants of rock salt, by W C. Overton, Jr., and R. T Swim. Specific heat of silicon below 100°K, by P H. Keesom and N Pearlman. Optical properties of F-centers at liquid-helium temperatures, by E. Burstein and J J. Oberly

Note: A collection of 61 monographs, most of them brief. They were delivered originally as papers at one of the 1951 symposia conducted in observance of the fiftieth anniversary of the establishment of the National Bureau of Standards. Most of the papers are illustrated and include bibliographical references.

WEBER, ROBERT L.

Heat and temperature measurement. New York Prentice-Hall, Inc. 1950 422 p. 22 cm. (Prentice-Hall physics series, Donald H. Menzel editor) $6 65 269

Contents (abridged) Part I, Principles of heat and temperature measurement: Temperature scales. Expansion thermometers. Heat transfer. Thermoelectricity Radiant energy Optical and radiation pyrometry Resistance thermometry Calorimetry Phase diagrams, thermal analysis. Thermodynamics. Extreme temperatures. Special methods of temperature measurement. International temperature scale. Part II, Laboratory experiments. Appendixes: How to solve physical problems. General laboratory procedure. Symbols and quantities. Tables. Index.

Note. (658) An elementary but rather thorough description of basic techniques and equipment applicable to the measurement of temperature and heat flow. Chiefly it is laboratory manual for the use of college students who have had an introductory course in physics. The discussions of experimental procedures are full enough to make them useful as guides to scientists out of college who need directions for projects involving heat measurement. Enough thermodynamic theory is included to make the book essentially complete in itself. Each chapter includes selected bibliography The work is revision of the author's Temperature, measurement and control (Philadelphia, Blakiston, 1941)

LIGHT AND OPTICS

JENKINS, FRANCIS ARTHUR AND HARVEY E WHITE

Fundamentals of optics. Second edition. New York McGraw Hill Book Company Inc. 1950 647 p. illus. 24 cm. $7.50 270

Contents (abridged) Part I, Geometrical optics: Light rays. Plane surfaces. Thin lenses. Spherical surfaces. Thick lenses. Spherical mirrors. The effects of stops. Ray tracing. Lens aberrations. Part II, Physical optics: Interference of two beams of light. Interference involving multiple reflections. Fraunhofer diffraction by single opening. The double slit. The diffraction grating. Fresnel diffraction. The electromagnetic character of light. Absorption and scattering. Dispersion. Polarization of light. Optical activity Reflection. Magneto-optics and electro-optics. Part III, Quantum optics: Photons. Index.

Note (665) A college textbook designed for students who have completed at least an introductory course in basic physics. The first edition was entitled Fundamentals of physical optics. The change in title was made necessary by the addition in the present edition, of the 175-page treatment of physical optics. Another addition is the fifteen-page chapter on photons. Other changes are relatively minor but they include new or revised discussions of such topics as nonreflecting films, wide-angle interference, the electron microscope, and the phase-contrast microscope.

JUDD, DEANE BREWSTER

Color in business science and industry New York John Wiley & Sons, Inc., 1952 401 p illus 24 cm. $6.50 271

Contents. Part I, Basic facts. The eye. Aspects of color (basic terms) Color matching. Color deficiencies. Part II, Tools and technics: Spectrophotometry Fundamental standards in colorimetry Visual colorimeters. Reproduction of pictures in color Colorimetry by difference. Color standards. Uniform color scales. Color languages. Part III, Physics and psychophysics of colorant layers: Gloss. Opacity or hiding power. Kubelka-Munk analysis. Identification of colorants. Formulation of colorants. Appendix. References. Index.

Note. A substantial manual of color standards, color measurements, and certain other selected aspects of color that are of particular concern in commerce and industry It is addressed to persons with education in basic physics and some familiarity with color problems. Colorimetry is covered thoroughly and leading types of spectrophotometers are compared. Various published color standards are discussed specifically The treatment of colorant layers, that is such finishes as varnish or wax over wood and ceramic glazes over baked clay is an analytical study based on optical principles. There is an extensive list of references to the literature. The author is on the staff of the National Bureau of Standards and has had long career in colorimetry

JUDD DEANE BREWSTER

Colorimetry Washington, D C. Government Printing Office 1950 56 p illus. 26 cm. (United States. National Bureau of Standards Circular 478) Paper $0.30 272

Contents: Introduction Definition and nature of color. Basic principles of measurement. The standard observer, illuminants and coordinate system. Reduction of spectrophotometric data to colorimetric terms. Direct colorimetry Small-difference colorimetry: Martens photometer. Chromaticity-difference colorimeter. Photoelectric tristimulus colorimeters. Perceptibility of color differences. Material standards of color Transparent media. Opaque media. One-dimensional color scales: Color temperature. Lovibond grading of vegetable oils. Union colorimeter grading of lubricating oils. Saybolt-chromometer grading of refined petroleum. U S. color standards for rosin Color standards for paint vehicles. General methods. References.

Note. This pamphlet brings together in concise form description of the standards and methods presented in many scientific and technical publications between the years 1930 and 1950. Color is defined and the basic principles of its measurement are outlined. Reduction of photometric data is described, three methods being illustrated by examples. The various methods of direct colorimetry the most useful collections of material color standards, the most widely used one-dimensional color scales, and the best known of the specifications of color having general applicability are described. The illustrative material includes 34 figures, mostly diagrams, and 19 tables. The bibliography lists 144 references.

MAERZ ALOYS AND M. REA PAUL

A dictionary of color Second edition. New York McGraw Hill Book Company Inc., 1950 208 p illus. 30 cm $30 00 273

Contents (abridged) Introduction. Permanence of colors used. The standardization of color names. Plan of the work. Sources of names included. Names not included Common errors in color-name usage. Modifiers of color names Definitions. The three attributes of color. Color matching. Appendixes Spectral reflection curves of "Dictionary of color" inks. Table of principal color names, showing frequency of use Polyglot table of principal color names. Bibliography Color plates Brief history of color standardization. Notes on color names. Index of color names. Supplementary index of color names.

Note: A standard reference book in which common names of colors including not only such terms as "alpine green" but also such as cavalry" are identified visually with the colors that they represent or represented Obsolete terms as well as those in current use are included. Identification is by means of series of fifty six color plates each of which shows seventy two gradations of recognized standard color. Special pains were taken to collect permanent inks for the color plates. The first edition of the work appeared in 1930 In this edition it has been revised to include color terms in use to the end of the year 1949.

PRINGSHEIM, PETER

Fluorescence and phosphorescence. New York Interscience Publishers, Inc., 1949 794 p illus 24 cm. $16.50 274

Contents: Introduction General theory Experimental technique. Part I, Fluorescence of gases and vapors: Monatomic gases and vapors. Diatomic gases and vapors. Polyatomic gases and vapors. Part II, Fluorescence and phosphorescence of condensed systems: General survey Fluorescence of organic compounds. Luminescence of pure inorganic compounds. Crystal phosphors. Bibliography Author index. Reference number index. Subject index.

Note: A comprehensive technical survey of photoluminescence. It does not cover technical applications but theory experimental techniques, and physical data are fully covered. In addition to narrative text there are 140 tables of data and 219 figures, many of which are graphs relating to spectra, etc. There are more than two thousand entries in the bibliography which is international in scope and comprehensive for literature published up to May 1948. The book is intended for graduate physicists and other scientists working in the field or seeking data from it. The author is associated with the Argonne National Laboratory

VALASEK, JOSEPH

Introduction to theoretical and experimental optics. New York John Wiley & Sons Inc. 1949 454 p illus 22 cm. $6.50 275

Contents: Geometrical optics: Fundamental principles. Ideal optical systems. Computation of constants. Physical limitations of optical images. Apertures of optical systems. Photometry and image brightness. Optical instruments. Stereoscopy Physical optics: Wave propagation. Interference of light. Diffraction. Polarization and double refraction. Optical activity Refraction and dispersion. Optical constants of metallic absorbers. Radiation and spectra: Thermal radiation. Line and band spectra. X-ray spectra. Magneto- and electro-optics. Measurement of color. The scattering of light. Experimental optics Experiments. Appendix. Answers to problems. Bibliography Index.

Note. Although this book is not systematic treatise, it includes material on both geometrical and physical optics and on theory and experimental work. It is addressed primarily to advanced students of physics with an interest in optics. However it also provides for graduate laboratory technicians and engineers at work in industry concise expositions of optical concepts and techniques which are not readily found in older treatises. The author is Professor of Physics in the University of Minnesota.

SPECTROSCOPY

HERZBERG GERHARD

Molecular spectra and molecular structure. I. Spectra of diatomic molecules. With the cooperation in the first edition, of J W T Spinks Second edition. New York D Van Nostrand Company Inc. 1950 658 p illus. 24 cm. $9 75 276

Contents Introduction Résumé of the elements of atomic structure. Observed molecular spectra and their representation by empirical formulae Rotation and vibration of diatomic molecules—interpretation of infrared and raman spectra. Elementary discussion of electronic states and electronic transitions. Finer details about electronic states and electronic transitions. Building-up principles, electron configurations, and valence. Continuous and diffuse molecular spectra—dissociation and predissociation. Examples, results, and applications. Appendix: Vibrational and rotational constants for the electronic states of all known diatomic molecules (table 39) Bibliography Author index. Subject index.

Note. (240*) A treatise for advanced students of chemistry and physics and graduate research workers in these fields. It is part of three-volume series (the third volume has not yet been published) on the measurement and interpretation of energy levels in molecules. It is based on the literature and the present edition contains bibliography of more than 1800 references. The first edition was published in 1939. The text of the present edition is based on the literature published through August, 1948. The valuable appendix table, however includes data published as late as 1950.

KISLIUK, PAUL, AND CHARLES H. TOWNES
Molecular microwave spectra tables. Washington, D C. Government Printing Office, 1952 127 p. 26 cm. (United States National Bureau of Standards. Circular 518) Paper $0 65 277

Contents: Introduction. Description of tables. Molecular microwave spectra tables: Molecules listed alphabetically by chemical symbol. Lines listed in order of frequency. Casimir's function. Indexes: Molecules by chemical symbol. Molecules by name. Authors listed alphabetically including [illegible] list of the molecules with the reference numbers.

Note: This group of tables gives the frequencies, assignment of quantum numbers, and intensities of about 1800 microwave absorption lines. The best available values of other pertinent molecular data, such as rotational constants, dipole moments, quadrupole coupling constants, and rotation-vibration interaction constants, are also included. The frequencies are listed once for each molecule, and again in consecutive ascending order of frequency. References are given for all data included. For easy calculation of quadruple hyperfine structure, Casimir's function is tabulated up to J = 10 and I = 9/2. Explanations of the tables and [illegible] short discussion of microwave spectra and important formulas are given in the Introduction.

MOORE, CHARLOTTE EMMA
An ultraviolet multiplet table. Washington, D C. Government Printing Office 1950–52 2 sections. 78 115 p. 29 cm. (United States. National Bureau of Standards. Circular 488 Sections 1–2) Section 1 paper $0 45 Section 2 paper, $0.60. 278

Contents: Section 1 The spectra of hydrogen, helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, neon, sodium, magnesium, aluminum, silicon, phosphorus, sulfur chlorine, argon, potassium, calcium, scandium, titanium, and vanadium. Section 2 The spectra of chromium, manganese, iron, cobalt, nickel, copper zinc, gallium, germanium, arsenic, selenium, bromine, krypton, rubidium, strontium, yttrium, zirconium, and niobium.

Note: The first two sections of [illegible] table extending multiplets in the far ultraviolet beyond the limit of the *Revised multiplet table* by Charlotte E. Moore (*Contr* Princeton Univ Observ, no. 20) published in 1945, which because of its limited wave-length range had proved to be inadequate. The two sections contain the leading multiplets of 125 spectra of the first 41 elements of the periodic table. The form of arrangement is identical with that of the *Revised multiplet table,* except that bibliographical references are included with each spectrum instead of being grouped together at the end.

SAWYER, RALPH ALANSON
Experimental spectroscopy Second edition. New York Prentice-Hall, Inc. 1951 358 p 24 cm. $7.35 279

Contents: History of spectroscopy Light sources Spectroscopic apparatus—general principles. Prism spectroscopes and spectrographs—theory and construction. Prism spectroscopes and spectrographs—types and use. The diffraction grating—theory and production. The diffraction grating—mountings and use. The photographic process. The determination of wave length. The determination of spectral intensity Apparatus and methods of infrared spectroscopy The spectroscopy of the vacuum ultraviolet. Spectrochemical analysis. Name index. Subject index.

Note: (679) A useful manual of information about standard spectrographic techniques and apparatus. It is designed for readers with practical interest in the subject, such as research workers in college laboratories and analytical chemists in industry. Readers will need background knowledge of basic physics and physical optics. In the present edition useful and rather extensive changes have been made. These include expanded discussions of certain topics, the inclusion of information from publications since 1944 and [illegible] few additions to the literature citations.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY
Tables for the analysis of beta spectra. Washington, D C. Government Printing Office 1952 61 p. illus. 26 cm. (United States National Bureau of Standards. Applied mathematics series 13) Paper $0.35 280

Contents (abridged): Introduction. Beta spectra. References. Figures: Graph of [illegible] Graphs of Au[illegible] spectrum in different scales. Spectrum of Au[illegible] after elimination of the statistical factor. Determination of the maximum energy Positron spectrum of Na[illegible] Fermi-Kurie plots of allowed spectra. Fermi-Kurie plot of [illegible] forbidden spectrum. Graph of [illegible] Graph of outer screening potential. Auxiliary tables: Values of [illegible] and T for electrons of given momentum, [illegible] Values of [illegible] for electrons of given kinetic energy Table of [illegible] Illustrating the importance of the relativistic effect. Illustrating the accuracy of the Bethe-Bacher approximation. Table for the evaluation of the screening effect. Table of the Fermi function.

Note: Most of the space in this pamphlet is devoted to the table of the Fermi function. The titles of the auxiliary tables and graphs are given above. T[illegible] quote the Introduction "The primary purpose of these tables is to assist in the theoretical analysis of experimental data on β ray spectra. This analysis involves the use of the function of [illegible] complex argument.

ELECTRICITY

BOZORTH, RICHARD MILTON
Ferromagnetism. New York D Van Nostrand Company, Inc. 1951 968 p illus. 24 cm. (Bell Telephone Laboratories series) $17.50. 281

Contents (abridged) Part I, Introduction: Concepts of ferromagnetism. Factors affecting magnetic quality Part II, Magnetic properties of materials: Technical and pure iron. Iron-silicon alloys. Iron-nickel alloys. Iron-cobalt alloys. Other high permeability materials. Permanent magnets. Part III, Magnetic phenomena and theories: The magnetization curve and the domain theory Magnetic properties of crystals. Stress and magnetostriction. Temperature and the Curie point. Change of magnetization with time. Special problems in domain theory Part IV Measurements. Appendixes: Some physical properties of the elements. Values of some constants. Magnetic properties of [illegible] materials. Bibliography Name index. Subject index.

Note: A substantial treatise covering the modern knowledge of magnetic phenomena and magnetic materials, addressed to graduate physicists and engineers. The bibliography alone runs to seventy-two pages. The author is [illegible] member of the technical staff of Bell Telephone Laboratories, Inc.

FRANK NATHANIEL HERMAN
Introduction to electricity and optics. Second edition. New York McGraw Hill Book Company Inc. 1950 440 p. illus. 24 cm. $ 282

Contents: Fields of force. The electrostatic field of force. The sources of the electrostatic field. Induced charges and capacity Steady electric currents. The magnetic field of force. The magnetic field of steady currents. Induced electromotive forces and inductance. Elementary alternating-current circuits. Displacement current and electromagnetic waves. Radiation of electromagnetic waves. Electronic conduction in vacuum and in metals. Dielectrics. Magnetic properties of matter Electromagnetic waves in material bodies. Geometrical optics and simple optical instruments. Dispersion and scattering. Interference. Diffraction. Heat radiation. Appendixes. Index.

Note: (696) This college text, based on courses given at Massachusetts Institute of Technology is designed for the use of second-year students majoring in electrical engineering or physics. Emphasis is on fundamental laws and theories and methods of application in the study of currents, electric and magnetic properties of matter and optics. The general scope and content of this revision remain the same, but the material has been expanded and rewritten to provide fuller discussions of such topics as field of force, parallel a.c. circuits, interference, and diffraction.

GILBERT NORMAN EVERETT
Electricity and magnetism. Third edition. New York The Macmillan Company 1950 269 p. illus. 21 cm. $6.00 283

Contents (abridged): Electricity and the electrostatic field. Magnets and the magnetic field. Potential. Capacity. Theory of dielectrics. Atmospheric electricity. Measurement of current. Resistance and its measurement. Measurement of potential. Electrolytic conduction and batteries. Direct-current dynamo machines. Measurement of inductance and capacity. Alternating-current networks. Alternators—generators and motors. Transformers. Transmission and distribution of power. Conduction in gases. Electrons, photons, and positive ions. Thermionic electron tubes. Electrical communication. Thermoelectricity. Radioactivity and the structure of matter. Units and dimensions. Index.

Note. ([illegible]) A textbook for engineering college students who are not specializing in electrical engineering. It is more comprehensive than many of the texts planned for such students, but it is neither so full nor so difficult as textbooks intended for the use of physics majors and engineering students. In the present edition new material has been added on such topics as the betatron, chain atomic reactions, plutonium, the source of the sun's heat, and the symbolic method of treating alternating-current networks. Altogether, the changes do not add up to an extensive revision.

HARNWELL, GAYLORD PROBASCO

Principles of electricity and electromagnetism. Second edition. New York McGraw-Hill Book Company Inc., 1949 670 p illus. 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $7.50 284

Contents: Electrostatics. Electrostatic energy and dielectrics. Physical characteristics of dielectrics and conductors. Direct-current circuits. Nonohmic circuit elements and alternating currents. Chemical, thermal, and photoelectric effects. Thermionic vacuum tubes. Electrical conduction in gases. Electromagnetic effects of steady currents. Changing electric currents and electromagnetic reactions. Magnetic properties of matter. Electromagnetic machinery. Simple circuits containing inductance, capacitance, and resistance. Coupled circuits, filters, and lines. Vacuum tube circuits. Radiation. Mathematical appendix. Index.

Note: ([illegible]) An established textbook for use in intermediate college courses offered to students who have completed a course in basic physics. It is designed as an introduction to both experimental and theoretical electricity but there is somewhat more emphasis on the experimental and mathematical aspects than on the theoretical. Changes in the present edition reflect advances in nuclear physics and in electronics. There are new or expanded discussions of such developments as radar, wave guides, and high-energy electromagnetic ion accelerators. In addition to its use as a text, the book has some value as a reference manual on advanced experimental techniques.

PAGE, LEIGH, AND NORMAN ILSLEY ADAMS JR.

Principles of electricity: an intermediate text in electricity and magnetism. Second edition. New York D Van Nostrand Company Inc. 1949 619 p illus. 22 cm. (University physics series Leigh Page, consulting editor) $6.00 285

Contents: Fundamental laws of electrostatics. Dielectrics and conductors. Solution of electrostatic problems. Magnetostatics. Steady currents. Chemical and thermal effects. Magnetic field of a current. Motion of ions in electric and magnetic fields. Electromagnetic induction. Interaction of currents and fields. Flux measurements. Absolute standards and units. Alternating currents. Measurements with varying currents. Coupled circuits, filters and lines. Electromagnetic waves. High-frequency oscillations. Index.

Note. (704) As this text is intended for use in undergraduate second-year physics courses, the treatment presupposes a knowledge of elementary physics and calculus. More advanced mathematical concepts are explained in the text as needed. The treatment is considerably more analytical than in introductory texts. The first edition published in 1931 was reprinted many times without revision. The present edition, although unchanged in scope and general arrangement, has now been revised to include new material on such topics as the cyclotron, betatron, and wave guide. The authors are members of the faculty of Yale University.

SILSBEE, FRANCIS B

Extension and dissemination of the electrical and magnetic units by the National Bureau of Standards. Washington D C. Government Printing Office, 1952 33 p. illus. 26 cm. (United States. National Bureau of Standards. Circular 531) Paper $0.25 286

Contents: Introduction. Fundamentals. Derivation of other units. Transfer from d-c to a-c measurements. Extension of measurement ranges: The resistance scale. The scale of direct voltage. The scale of direct current. The scale of alternating current. The scale of alternating voltage. Measurement of crest and surge voltage. Dissemination of units. International relations. Bibliography.

Note. This circular gives an overall picture of the sequence of measuring processes by which a self-consistent system of electrical units is built up in the laboratories of the National Bureau of Standards. Starting with the ohm and the volt as maintained by groups of standard resistors and cells, the pamphlet describes the experimental processes by which the other electric and magnetic units, e.g., farad, henry, ampere, watt, joule, gauss, and oersted, are derived. It also describes the series of steps by which the scales of measurement of resistance and voltage are derived experimentally. Brief mention is made of the procedures for the dissemination of these standards of measurement throughout the world by the calibration of standard electrical measuring apparatus. An extensive bibliography lists papers describing the measurement procedures in greater detail and serves as a historical report of the work of the National Bureau of Standards in the field of electrical measurements during its first 50 years.

SMYTHE, WILLIAM RALPH

Static and dynamic electricity. Second edition. New York McGraw-Hill Book Company Inc. 1950 616 p illus 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $9.00 287

Contents: Basic ideas of electrostatics. Capacitors, dielectrics, systems of conductors. General theorems. Two-dimensional potential distributions. Three-dimensional potential distributions. Electric current. Magnetic interaction of currents. Electromagnetic induction. Transient phenomena in networks. Alternating currents. Eddy currents. Magnetism. Plane electromagnetic waves. Electromagnetic radiation. Wave guides and cavity resonators. Special relativity and the motions of charged particles. Appendix. Index.

Note. (707) An outstanding graduate-level text designed for students who are preparing for careers in research in physical and industrial laboratories. In it the basic laws of electrostatics, magnetostatics, and electromagnetic theory are formulated from the underlying experimental facts. Mathematical techniques for applying these basic laws to specific problems are emphasized. Much of the exposition is in the form of specific problems worked out in the text. Several hundred additional problems for the student to work are included. The first edition was published in 1939. This edition represents a very extensive revision. Nomenclature has been revised and rationalized mks units have been adopted throughout. The treatment of electromagnetic waves has been expanded so as to reflect the increased interest in the microwave range. The chapter on wave guides and cavity resonators is new.

SYMPOSIA IN APPLIED MATHEMATICS

Proceedings. Volume II. Electromagnetic theory. New York American Mathematical Society 1950 91 p. illus. 26 cm. $3.00. 288

Contents: The new quantum electrodynamics, by H. Feshbach. A method of analytical continuation in the eigenvalue and scattering problems of quantum theory (abstract) by E. Feenberg. Electromagnetism without metric, by J. L. Synge. Discontinuity in electromagnetism, by W. H. Watson. The factorization method and its application to differential equations in theoretical physics, by L. Infeld. Nonlinear electrical networks, by R. J. Duffin. Ray theory vs. normal mode theory in wave propagation problems, by C. L. Pekeris. Systems of Wiener-Hopf integral equations and their application to some boundary value problems in electromagnetic theory.

by A. E. Heins. Orbits of charged particles in constant fields (abstract) by A. H. Taub. Reflections from bends and corners in electromagnetic wave guides (abstract), by S. O. Rice. Wave propagation in electromagnetic horns (abstract) by A. F Stevenson. Problems related to measuring the field strength of high frequency electromagnetic fields (abstract), by R. Truell. Aberration correction with electron mirrors (abstract) by E. G. Ramberg. Distribution problems in the theory of random noise (abstract) by M. Kac. Entropy and information (abstract) by N Wiener The statistical theory of message transmission (abstract), by Y W Lee. Transient response and the central limit theorem of probability (abstract) by H Wallman.

Note: Collected in this volume are papers presented at the second Symposium in Applied Mathematics, held at the Massachusetts Institute of Technology in July 1948. The papers illustrate applications of advanced mathematics to problems in electromagnetic fields, electrical networks, etc., and in many instances describe recently developed methods of attack. Where "(abstract)" is included in the title only an abstract is given in the volume; in other cases the full text is included.

SYMPOSIUM ON THE THEORY OF ELECTROMAGNETIC WAVES

The theory of electromagnetic waves. A symposium held under the auspices of the Washington Square College of Arts and Science and the Institute for Mathematics and Mechanics of New York University and the Geophysical Research Directorate of the Air Force Cambridge Research Laboratories, June 6–8 1950 New York Interscience Publishers Inc., 1951 393 p. 26 cm. $6.50 289

Contents: On the theory of electromagnetic wave diffraction by an aperture in an infinite plane conducting screen, by H. Levine and J. Schwinger. On systems of linear equations in the theory of guided waves, by W. Magnus and F Oberhettinger. Wiener-Hopf techniques and mixed boundary value problems, by S. N. Karp. Asymptotic solutions of differential equations in the theory of microwave propagation, by R. E. Langer. Criteria for discrete spectra, by K. O. Friedrichs. Extension of Weyl's integral for harmonic spherical waves to arbitrary wave shapes, by H. Poritsky. Kirchhoff's formula, its vector analogue, and other field equivalence theorems, by S. A. Schelkunoff. On the diffraction theory of Gaussian optics, by H. Bremmer. Diffraction and reflection of pulses by wedges and corners, by J B Keller and A. Blank. Vector wave functions, by R. D. Spence and C. P Wells. The W.K.B. approximation as the first term of a geometric-optical series, by H. Bremmer. Remarks concerning wave propagation in stratified media, by S. A. Schelkunoff. The theory of magnetic field triple splitting, by O. E. H. Rydbeck. An asymptotic solution of Maxwell's equations, by M. Kline. Field representations in spherically stratified regions, by N Marcuvitz. Propagation in a non-homogeneous atmosphere, by B. Friedman. Reflection of electromagnetic waves from slightly rough surfaces, by S. O. Rice. The theory of scattering of radio waves in the troposphere and ionosphere (abstract) by H. G. Booker. Properties of guided waves (abstract) by R. B. Adler. Evaluation of integrals associated with wave motion in dispersive media and the formation of transients (abstract) by M. Carrillo. Electromagnetic research in the U S. Air Force Research Program, by M. C. Gerson.

Note: A collection of original papers which reflects the current mathematical approaches to theoretical problems in electromagnetic wave research. Although predominantly theoretical, many of the papers have clear applications in the design of radio antennas and other problems which concern communications engineers.

WHITMER ROBERT MOREHOUSE

Electromagnetics. New York Prentice-Hall, Inc., 1952 270 p. 22 cm. (Prentice-Hall physics series, Donald H. Menzel, editor) $6 65 *290*

Contents: Charge, field, and potential. Relations among electrostatic quantities. Capacitors. Dielectric materials. Electrostatic problems. Direct currents. Magnetic fields. Induced emf's and inductance. Magnetic materials. Alternating currents. General field equations and the wave equations. Plane electromagnetic waves. Guided waves. The Hertzian vectors and circular waveguides. Appendix. References. Index.

Note: A textbook for upperclass college students who are majoring in either physics or electrical engineering. The author has assumed that the students will have had or be pursuing courses in general circuit theory and in vector analysis. The various topics named in the chapter titles are treated mainly from the field theory point of view. Comparisons are drawn between electrostatic and magnetic concepts and equations, and the reader is introduced to the pertinent mathematics. Terms such as "conducting material" are defined more precisely than is customary in introductory courses.

TERRESTRIAL ELECTRICITY

CARNEGIE INSTITUTION OF WASHINGTON DEPARTMENT OF TERRESTRIAL MAGNETISM

Earth-current results at Tucson Magnetic Observatory 1932–1942 by W J Rooney Washington D C. Carnegie Institution of Washington 1949 309 p. illus. 28 cm. (Carnegie Institution of Washington Publication 175 Researches of the Department of Terrestrial Magnetism. Vol. IX) 291

Contents: Details of site and apparatus. Reduction of records. Discussion of results: General considerations. The solar diurnal variation. Relation to solar activity. Seasonal changes. Comparison with magnetic records. Variations with periods longer than one day. Lunar diurnal variations. Literature cited. Tables 1–318.

Note: The greater part of this volume consists of a series of tables in which are given the hourly mean values of earth-current potentials, arranged by month, for the years indicated. Apparatus used and methods of registering the potentials are described in the introductory chapters. The data were assembled as a joint project of the United States Coast and Geodetic Survey and the Bell Telephone Company

LEDIG, P G, AND OTHERS

Magnetic results from Huancayo Observatory Peru. Department of Terrestrial Magnetism. Carnegie Institution of Washington January 1945–June 1947 Instituto Geofisico de Huancayo July–December 1947 By P G Ledig A. A. Giesecke, Jr W C. Parkinson W E. Scott, and Ella Balsam. Washington D C. Carnegie Institution of Washington 1951 127 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Vol. X–C) Paper $0 75 cloth $1 50 292

Contents: Explanatory text: Introduction. Description of instruments. Constants of the magnetographs. Absolute observations and variometer base-line values. Basic hourly values and associated means. Summary of monthly means. Summary of annual means. Magnetic disturbances and sudden commencements. Literature cited. Tables. Observatory staff from 1945 to 1947 Monthly mean and range in temperature. Eschenhagen magnetograph. Summary of adopted values of A from H scale-value determinations with Helmholtz coil Summary of Z scale-value determinations with Helmholtz coil, 1941 to 1947 Observed base-line values for the D variometer and respective adopted values. Abrupt changes in the adopted D base-line value. Observed base-line values at 15°C for the H variometer and respective adopted values. Abrupt changes in the adopted H base-line value. Observed base-line values at 15°C for the Z variometer and respective adopted values. Summary of monthly means for 1945 to 1947 Summary of annual means for 1922 to 1947 Magnetic disturbances and sudden commencements, 1945 to 1947 Hourly mean values of declination, horizontal intensity and vertical intensity 1945 to 1947

Note: (234*) This publication presents magnetic data obtained at the Huancayo Magnetic Observatory during the years 1945, 1946, and 1947 in continuation of the data presented in Parts A and B of Volume X of Carnegie Institution of Washington Publication 175, "Researches of the Department of Terrestrial Magnetism." Like its two predecessors, Part C is in tabular form with an explanatory text. The Huancayo Observatory was transferred by gift from the Carnegie Institution of Washington to the Peruvian government on July 1, 1947 hence this volume marks the conclusion of the pub-

lication program of the Carnegie Institution of Washington with respect to the Huancayo Magnetic Observatory. By agreement the volume also includes the records of data collected at the Observatory during the first six months of operation under Peruvian auspices.

PARKINSON, W C, AND OTHERS

Magnetic results from Watheroo Observatory Western Australia. Department of Terrestrial Magnetism Carnegie Institution of Washington, January 1945–June 1947 Australian Commonwealth Bureau of Geology Geophysics and Mineral Resources, July–December 1947 Compiled edited and interpreted by W C. Parkinson F W Wood W E. Scott, and Ella Balsam. Washington, D C. Carnegie Institution of Washington 1951 127 p illus. 28 cm. (Carnegie Institution of Washington Publication 175 Researches of the Department of Terrestrial Magnetism. Vol. VII–C) Paper $0 75 293

Contents: Explanatory text Introduction. Description of instruments. Constants of the magnetographs. Absolute observations and variometer base-line values. Basic hourly values and associated means. Summary of monthly means. Summary of annual means. Magnetic disturbances and sudden commencements. Literature cited. Tables: Observatory staff from 1945 to 1947 Monthly mean and range in temperatures, Eschenhagen magnetograph. Observed H scale values , and adopted values of A. Summary of daily Z scale-value determinations with Helmholtz coil, 1945–1947 Observed base-line values for the D variometer and respective adopted values. Abrupt changes in the adopted D base-line value. Observed base-line values at 20°C for the H variometer, and respective adopted values. Abrupt changes in the adopted H base-line value. Observed base-line values at 20°C for the Z variometer and respective adopted values. Abrupt changes in the adopted Z base-line value. Summary of monthly means for 1945 to 1947 Summary of annual means for 1919 to 1947 Magnetic disturbances and sudden commencements, 1945 to 1947 Hourly mean values of declination, horizontal intensity and vertical intensity 1945 to 1947

Note. (255°) This publication presents data obtained at the Watheroo Magnetic Observatory during the years 1945, 1946, and 1947 in continuation of the data presented in parts A and B of Volume VII of Carnegie Institution of Washington Publication 175. Like its two predecessors, Part C is in tabular form with an explanatory text. As the Watheroo Magnetic Observatory was transferred by gift from the Carnegie Institution of Washington to the Australian Commonwealth Government on July 1, 1947 this volume marks the conclusion of the publication program of the Carnegie Institution of Washington with respect to the Watheroo Magnetic Observatory By agreement the volume also includes the records of data collected at the Observatory during the first six months of operation under Australian auspices.

X-RAYS AND OTHER RADIATION

KOLLER, LEWIS RICHARD

Ultraviolet radiation New York John Wiley & Sons, Inc., 1952 270 p illus. 24 cm. $6.50 294

Contents: Introduction. Arcs. Incandescent sources of radiation. Solar radiation. Transmission. Reflection. Some applications and effects of ultraviolet. Detectors of ultraviolet radiation. Index.

Note. A general survey in which is incorporated wide range of scientific and technical data. It is addressed primarily to persons who have some familiarity with technical terminology such as physicists, chemists, engineers, biologists, and some laymen. In the chapter on applications such uses of ultraviolet radiation as tanning of the skin, prevention of rickets, destruction of bacteria in air and water, and the production of illumination are discussed. The descriptions of lamps and other devices for producing ultraviolet radiation are limited to types rather than to particular equipment now being manufactured. Selected short lists of literature references are included. The author is member of the staff of the General Electric Research Laboratory

WEYL CHARLES AND S REID WARREN, JR.

Radiologic physics. Second edition. With a foreword by Eugene P Pendergrass. Springfield, Ill. Charles C Thomas, 1951 491 p. illus. 24 cm. $11.25 295

Contents. Part 1 Scientific method, electromagnetism and electromagnetic devices: Discussion of scientific method. The experimental bases of electromagnetism; tentative atomic theories for correlating the observed phenomena. The quantitative analysis of electric circuits. Electrical measuring instruments. Transformers, generators, and motors; electric power distributing systems. Principles of electronics. Electronic devices. High-voltage generators for X-ray equipment. Part 2 Radiant energy and its interactions with matter: The theory of radiant energy—a historical survey X-rays and matter. Radioactivity and nuclear physics. The measurement and control of X-rays and radioactive emissions. Physical aspects of therapeutic and tracing techniques; equivalent dose for X-rays and radioactive emissions; protection. Physical aspects of fluoroscopic and roentgenographic techniques. The effects of variations of exposure factors on roentgenographic results. Fluoroscopic and roentgenographic techniques. Appendix. Mathematical tables. Name index. Subject index.

Note. (690) A standard text on general physics and on those aspects of physics hich apply particularly to X-rays and other radiation used in medical diagnosis and therapy It is used primarily as text in graduate courses offered to physicians who are preparing to specialize in radiology Although some rather advanced matters are taken up in the latter parts of the book, the authors have not assumed that their readers will have foundations in either mathematics or physics. The first edition was published in 1941 Changes and revisions made in preparing this edition include an expansion of the discussions of electronic phenomena and devices, of artificial radioactivity and of the uses of radioactive isotopes. Recent literature has been added to the chapter bibliographies.

METEOROLOGY

AMERICAN METEOROLOGICAL SOCIETY

Compendium of meteorology Prepared under the direction of the Committee on the Compendium of Meteorology H. G. Houghton chairman. Edited by Thomas F Malone. Boston, Massachusetts American Meteorological Society 1951 1334 p. Illus. 29 cm. $12 00. 296

Contents: Composition of the atmosphere: The composition of the atmospheric air by E. Glueckauf. Radiation: Solar radiant energy and its modification by the earth and its atmosphere, by S. Fritz. Long-wave radiation, by F Möller. Actinometric measurements, by A. Ångström. Meteorological optics: General meteorological optics, by H. Neuberger Polarization of skylight, by Z. Sekera. Visibility in meteorology by W E. K. Middleton. Atmospheric electricity: Universal aspects of atmospheric electricity by O. H. Gish. Ions in the atmosphere, by G. R. Wait and W D. Parkinson. Precipitation electricity by R. Gunn. The lightning discharge, by J. H. Hagenguth. Instruments and methods for the measurement of atmospheric electricity by H. Israël. Radioactivity of the atmosphere, by H. Israël. Cloud physics: On the physics of clouds and precipitation, by H. G. Houghton. Nuclei of atmospheric condensation, by C. Junge. The physics of ice clouds and mixed clouds, by F H. Ludlam. Thermodynamics of clouds, by F Möller. The formation of ice crystals, by U Nakaya. Snow and its relationship to experimental meteorology by V J. Schaefer Relation of artificial cloud-modification to the production of precipitation, by R. D. Coons and R. Gunn. The upper atmosphere: General aspects of upper atmospheric physics, by S. K. Mitra. Photochemical processes in the upper atmosphere and resultant composition, by S. Chapman. Ozone in the atmosphere, by F W P Götz. Radiative temperature changes in the ozone layer, by R. A. Craig. Temperatures and pressures in the upper atmosphere, by H. E. Newell, Jr. Water vapour in the upper air, by G. M. B. Dobson and A. W Brewer. Diffusion in the upper atmosphere, by H. Lettau. The ionosphere, by S. L. Seaton. Night sky radiations from the upper atmosphere, by E. O. Hulburt. Aurorae and magnetic storms, by L. Harang. Meteors as probes of the upper atmosphere, by F L. Whipple. Sound propagation in the atmosphere, by B. Gutenberg Cosmical meteorology: Solar energy variations as possible cause of anomalous weather changes, by R. A. Craig and H. C. Willett. The atmospheres of the other planets, by S. L. Hess and H. A. Panofsky Dynamics of the atmosphere: The perturbation equations in meteorology by B. Haurwitz. The solution of nonlinear meteorological problems by the method of characteristics, by J C. Freeman. Hydrodynamic instability by J. M. Van Mieghem. Stability properties of large-scale atmospheric disturbances, by R. Fjørtoft. The quantitative theory of cyclone development, by E. T Eady Dynamic forecasting by numerical process, by J. G. Charney Energy equations, by J E. Miller. Atmospheric turbulence and diffusion, by O. G. Sutton. Atmospheric tides and oscillations, by S. Chapman. Application of the thermodynamics of open systems to meteorology by J. M. Van Mieghem. The general circulation The physical basis for the general circulation, by V P Starr. Observational studies of general circulation patterns, by J. Namias and P F Clapp. Applications of energy principles to the general circulation, by V P Starr. Mechanics of pressure systems: Extratropical cyclones, by J. Bjerknes. The aerology of extratropical disturbances, by E. Palmén. Anticyclones, by H. Wexler. Mechanism of pressure change, by J M. Austin. Large-scale vertical velocity and divergence, by H. A. Panofsky The instability line, by J. R. Fulks. Local circulations: Local winds, by F Defant. Tornadoes and related phenomena, by E. M. Brooks. Thunderstorms, by H R. Byers. Cumulus convection and entrainment, by J. M. Austin. Observations and analysis: World weather network, by A. F Spilhaus. Models and techniques of synoptic representation, by J. C. Bellamy Meteorological analysis in the middle latitudes, by V J Oliver and M B. Oliver. Weather forecasting: The forecast problem, by H C Willett. Short-range weather forecasting, by G. E. Dunn. A procedure of short range weather forecasting, by R. C. Bundgaard. Objective weather forecasting, by R. A. Allen and E. M. Vernon. General aspects of extended range forecasting, by J Namias. Extended-range weather forecasting, by F Baur. Extended-range forecasting by weather types, by R. D. Elliott. Verification of weather forecasts, by G. W Brier and R. A. Allen. Application of statistical methods to weather forecasting, by G. P Wadsworth. Tropical meteorology: Tropical meteorology by C. E. Palmer. Equatorial meteorology by A. Grimes. Tropical cyclones, by G. E. Dunn. Aerology of tropical storms, by H. Riehl. Polar meteorology: Antarctic atmospheric circulation, by A. Court. Arctic meteorology by H. D. Dorsey Jr. Some climatological problems of the arctic and sub-arctic, by F K. Hare. Climatology: Climate—the synthesis of weather by C. S. Durst. Applied climatology by H. E. Landsberg and W C. Jacobs. Microclimatology by R. Geiger Geological and historical aspects of climatic change, by C. E. P Brooks. Climatic implications of glacier research, by R. F Flint. Tree-ring indices of rainfall, temperature, and river flow by E. Schulman. Hydrometeorology: Hydrometeorology in the United States, by R. D. Fletcher The hydrologic cycle and its relation to meteorology—river forecasting, by R. K. Linsley Marine meteorology Large-scale aspects of energy transformation over the oceans, by W C. Jacobs. Evaporation from the oceans, by H. U. Sverdrup. Forecasting ocean waves, by W H. Munk and R. S. Arthur. Ocean waves as a meteorological tool, by W H. Munk. Biological and chemical meteorology: Aerobiology, by W C. Jacobs. Physical aspects of human bioclimatology by K. J. K. Buettner. Some problems of atmospheric chemistry by H. Cauer. Atmospheric pollution Atmospheric pollution, by E. W Hewson. Clouds, fog, and aircraft icing: The classification of cloud forms, by W E. Howell. The use of clouds in forecasting, by C. F Brooks. Fog, by J. J. George. Physical and operational aspects of aircraft icing, by L. A. Rodert. Meteorological aspects of aircraft icing, by W Lewis. Meteorological instruments: Instruments and techniques for meteorological measurements, by M. Ference, Jr Aircraft meteorological instruments, by A. C. Best. Laboratory investigations: Experimental analogies to atmospheric motions, by D. Fultz. Model techniques in meteorological research, by H. Rouse. Experimental cloud formation, by Sir D. Brunt. Radiometeorology: Radar storm observation, by M. G. H. Ligda. Theory and observation of radar storm detection, by R Wexler Meteorological aspects of propagation problems, by H. G. Booker. Sferics, by R. C. Waite. Microseisms: Observations and theory of microseisms, by B. Gutenberg. Practical application of microseisms to forecasting, by J R. Macelwane. Index

Note: A comprehensive statement and survey of the current state of meteorological knowledge. The papers were written especially for it and the authors, who are recognized specialists, were drawn from several nations including the U S. A. A typical paper contains about 14,000 words and is supplemented by a long bibliography of the pertinent literature. The work is of interest to meteorologists and to physicists interested in such branches of meteorology as atmospheric electricity and the properties of the upper atmosphere.

CARTER, J H, AND OTHERS

On atmospheric pollution a group of contributions. Boston Mass. The American Meteorological Society 1951 35 p Illus. 28 cm. (American Meteorological Society Meteorological monographs. Vol. I, no 4 November 1951) Paper $4.50. 297

Contents: Some aspects of the air pollution problem: panel discussion: Enforcement principles and standards, by J. H. Carter. Meteorology applied to air pollution abatement, by C. A. Gosline. Meteorological influences and their application to control at the source, by E. W Hewson. Climatology and its part in pollution, by H. Landsberg. Diffusion of stack gases in very stable atmospheres, by M. L. Barad. The statistical theory of diffusion by turbulent eddies, by G. W Brier. Instruments for air pollution measurement, by W L. C. Hemeon. Microclimatic factors in smoke pollution from tall stacks, by P H. Lowry Ground level measurements of oil fog emitted from a hundred meter chimney by P H. Lowry and others. Gradient profiles in the lower layers of the atmosphere, by H. F Poppendiek. Air-tunnel studies of diffusion in urban areas, by H. Rouse. Analyzing winds for frequency and duration, by R. H. Sherlock. The forecasting of micrometeorological variables, by M. E. Smith.

Note: In this booklet various aspects of the problems of atmospheric pollution are discussed by meteorologists. Most of the papers

describe the results of recent, original investigations. All but one of the papers were presented at a symposium on atmospheric pollution held during the 30th meeting of the American Meteorological Society at St. Louis in January 1950.

CONRAD, VICTOR AND L W POLLAK

Methods in climatology Second edition revised and enlarged including some methods in general geophysics Cambridge, Mass. Harvard University Press 1950 459 p 24 cm. $7 50 298

Contents: (*abridged*) Part I, Methods in climatology: General remarks. Statistical analysis of climatic elements. Aids to computation. Some problems of curve fitting, and smoothing of numerical series. Harmonic analysis. Characteristics of some selected climatic elements. Spatial comparison of climatic elements. Essential elements of the climatography Part II, Computing devices, periodography Computation with mechanical and electrical devices. Periodography; hidden periodicities. Test of significance. Determination of periods with the aid of autocorrelation. Appendixes. Index.

Note. (798) A valuable presentation in which are described climatological rather than geographical methods of assembling observational data and constructing therefrom a quantitative description of a climate. It is designed to facilitate the step from qualitative to quantitative methods for college students of climatology and of related fields such as geography and agriculture. The methods described are based on mathematical and statistical analysis; hence the readers need a working knowledge of these disciplines. Part II was added in this edition, and there are other important revisions and augmentations.

CRAIG RICHARD A.

The observations and photochemistry of atmospheric ozone and their meteorological significance. Boston Mass The American Meteorological Society 1950 50 p. illus. 28 cm. (American Meteorological Society Meteorological monographs Vol. I no 2 Sept. 1950) Paper $2 50 299

Contents. Introduction. Ozone observations. The photochemistry of atmospheric ozone A discussion of the observed characteristics of atmospheric ozone. Summary and conclusions References. Appendixes Observed total amounts and vertical distributions of ozone Details of photochemical calculations.

Note A survey of the present state of knowledge of atmospheric ozone. The historical development of this knowledge and the reported results and observations are presented in a readable, well-organized form. The bibliography although not comprehensive is substantial.

DONN WILLIAM L

Meteorology with marine applications. Second edition New York McGraw Hill Book Company Inc. 1951 465 p. illus 24 cm. $6.25 300

Contents (*abridged*) Heat and temperature of the air Humidity Atmospheric equilibrium Condensation and precipitation Clouds and thunderstorms Atmospheric pressure Winds—observation and theory Primary or terrestrial wind circulation. Weather analysis and interpretation Optical features of the atmosphere. The oceans. Bibliography Appendixes: Teletype sequence code Tables of average weather summaries for principal ports and islands Index.

Note (261) A general introduction to meteorology aimed specifically at mariners and others with a practical interest in the weather at sea. It is well written and illustrated and, though semi-technical in style it is not difficult to read The most obvious change in the present edition is a complete revision of the chapter on weather coding and notation, to make it conform to the International Weather Code, which went into effect on January 1, 1949

LEOPOLD L. B AND OTHERS

On the rainfall of Hawaii a group of contributions. Boston Mass. The American Meteorological Society 1951 55 p illus. 28 cm. (American Meteorological Society Meteorological monographs. Volume I, no. 3 June, 1951) Paper $2 50 301

Contents: Foreword, by R. C. Ansiter. Introduction Hawaiian climate, its relation to human and plant geography by L. B. Leopold. Statistical investigations into the climatology of rainfall on Oahu (T.H.) by H. Landsberg. The geographic distribution of average monthly rainfall, Hawaii, by C. K. Stidd and L. B. Leopold. A study of rainfall over Oahu, by T. C. Yeh and others. On the relation between the circumpolar westerly current and rainfall over the Hawaiian Islands, by T C. Yeh and others.

Note: Original papers written as part of a meteorology research program organized to explore "the feasibility of obtaining useful, practical weather forecasts for Hawaii, particularly long range forecasts," are printed in this booklet. The research program, sponsored by The Pineapple Research Institute of Hawaii and set up under the guidance of C. G. Rossby is an illustration of meteorological research applied to a particular region and designed to delineate the factors which are important in long-range weather forecasting for the region.

NEUBERGER, HANS

Introduction to physical meteorology State College, Pa. Pennsylvania State College, 1951 271 p illus 24 cm. $3.50 302

Contents Condensation processes in the atmosphere. Visibility in meteorology Solar and terrestrial radiation. Meteorological acoustics Meteorological optics. Atmospheric electricity Appendix. General references. Index.

Note: An introduction to the physical processes of the atmosphere written for college students and others who possess a basic understanding of college physics and algebra. Only those classes of phenomena named in the chapter titles are covered, and there is no discussion of thermodynamics. On the other hand, clear statements are given of the current knowledge of such phenomena as condensation nuclei. The chapters contain reference lists to which statements in the text are keyed. There are 109 figures and approximately 70 tables. The author is Professor of Meteorology in the Pennsylvania State College.

PERRIE, D W

Cloud physics. New York John Wiley & Sons Inc. 1950 119 p. illus. 27 cm. $4.50. 303

Contents Forms and classification. Material of the clouds. Processes of cloud formation. Nuclei of condensation and sublimation. Natural precipitation. Induced precipitation. The observation of clouds. Clouds in relation to forecasting Clouds in relation to flying. Stratosphere clouds. Optical and electrical phenomena associated with clouds. Appendix. Charts of cloud characteristics. Glossary. Bibliography Indexes.

Note. A general, semi-technical survey of the varieties of clouds, the physics of cloud formation, rainfall and other precipitation, the importance to aviators of a knowledge of cloud types, etc. The descriptions and discussions of cloud phenomena are carefully related to basic meteorologic knowledge. The charts in the appendix are useful tabulations of the characteristics of the different kinds of clouds.

RIEHL HERBERT, AND OTHERS

Forecasting in middle latitudes. By Herbert Riehl and J Badner J E Hovde N E La Seur L. L. Means W C. Palmer M J Schroeder L W Snellman and others. With a foreword by Francis W Reichelderfer Boston, Mass The American Meteorological Society 1952 80 p. illus. 28 cm. (American Meteorological Society Meteorological monographs. Vol. I, no. 5 June, 1952) Paper, $3 50 304

Contents: Introduction. The upper-air prognostic chart. The surface prognosis. Field example, 1–4 November 1950 (stage XIII) Appendices Calculation and representation of the zonal wind profile. Preparation of the continuity chart. Long wave calculations. Calculation of the dynamic stability in ridges. Computation of the 24-hr 500-mb prognosis. Jet stream analysis. Computation of the

24-hr jet stream prognosis. Computation of the vorticity field aloft. Relations between changes of surface pressure and changes of vorticity aloft. Trajectory method of displacement. References.

Note. The mechanics and computations of contemporary weather forecasting for short periods such as 48 hours are illustrated in this work. The method chiefly considered is the construction of prognostic charts "on the basis of experience, empirical rules, and some kinematic and dynamic computations." The forecaster is shown first how to draw an upper air prognostic chart, then how to use this and other information in drawing a 48-hr surface prognostic chart. The booklet is based on a course sponsored by the University of Chicago and conducted at the Chicago Weather Bureau Forecast Center since 1950. It is written in the technical terminology of the field and is addressed both to advanced college students and to graduate meteorologists. A particularly valuable feature is the relation of specific steps in the prognosis to papers bearing on them in the modern literature.

TANNEHILL, IVAN RAY

Hurricanes their nature and history particularly those of the West Indies and the southern coasts of the United States. Eighth edition. Princeton Princeton University Press, 1952 308 p illus. 22 cm. $4.00. 305

Contents: Introduction—tropical cyclones. Winds of the hurricane. The storm wave. Origin of West Indian hurricanes. Hurricane tracks. Rainfall in tropical cyclones. Barometric pressures. Signs of the approaching hurricane. Unusual hurricane movements. Frequency of West Indian hurricanes. Destructive effects of hurricanes. Precautionary measures. Early history of West Indian hurricanes. Memorable hurricanes of the nineteenth century. Chronological account of hurricanes of the twentieth century. Chronological list of hurricanes, 1494 to 1900. Appendix: Observing and forecasting hurricanes. Bibliography. Index.

Note (249*) The standard work of information about the meteorology and records of hurricanes. The style is semi-technical and the book appeals both to general readers and to professional meteorologists. Much detailed information on particular hurricanes is included. The seventh edition was published in 1950. In this one the only changes are the addition of the appendix which contains both a description of the use of radar and other developed techniques in the forecasting of hurricanes and a revised account of the hurricanes of 1943–1951.

TANNEHILL, IVAN RAY

Weather around the world Second edition. Princeton Princeton University Press, 1952 212 p. illus. 20 cm. $2.50 306

Contents: Wind and waves. Clouds. Prevailing winds, barometers and the law of storms. Ocean currents, temperatures and climate. Heat and humidity. Cloudiness, rain, snow and fog. Special phenomena over the oceans. Europe. West Indies and South America. The Mediterranean and the Middle East. Africa. Asia. Australia and the Pacific Islands. North America. The weather aloft. Appendix, Weather records around the world. A, Weather records for 110 cities. B, Supplementary weather records for 73 places. C, Wind and weather for ocean crossings. Indexes.

Note: (747) A handy, readable book addressed to travellers and other laymen. It is useful also as a weather reference book in personal libraries. The first seven chapters deal with weather phenomena in general and include both unusual facts such as the height of the tallest waves and information about more routine matters such as varieties of clouds. The remainder of the book (except for the final chapter) is devoted to the weather of particular regions of the world. The first edition was published in 1943. The main change in the present edition is the addition of the final chapter on the weather and travel by air.

UNITED STATES TECHNICAL CONFERENCE ON AIR POLLUTION

Air pollution Sponsored by the Interdepartmental Committee on Air Pollution, Louis C McCabe chairman New York McGraw Hill Book Company Inc., 1952 847 p. illus. 26 cm. $12.59 307

Contents (abridged) Part I, Agriculture panel: Air pollution in relation to economics, by V W Johnson. Some impurities in the air and their effects on plants, by M. D. Thomas and others. Similarities between disease symptoms and chemically induced injury to plants, by L. M. Massey. The effects of air borne fluorides on livestock, by C. J. Largent. Some effects of fluorine fumes on vegetation, by S. W Griffin and B. R. Bayles. Fluorosis in livestock, by P. H. Phillips. Part II, Analytical methods and properties panel: The spectrum of particle size and its relation to air pollution, by H. P Munger. Physical properties of aerosols, by D. Sinclair. Chemical analysis of air pollutants, by A. J. Haagen-Smit. Method for identifying and estimating gases and spores in air pollution, by M. Shepherd. Spectrographic analysis in air pollution studies, by R. F Scribner. Part III, Equipment panel: Odor control practices, by W H. Witheridge. Viscous impingement filters, by J. W May. Spray towers, bubble towers, and packed towers using reactive and non-reactive liquids, by J. L. York. Condensation techniques for dust detection and collection, by J. L. Yellott and A. Broders. Role of activated carbon in practical control of atmospheric contamination, by A. B. Ray. Theory and basic principles of the sonic smoke flocculator, by H. W St. Clair. The place of tall stacks in air pollution control, by G. R. Hill. Design and use of smokeless hand-fired residential coal burning equipment, by J. R. Garvey. Abatement of dust from power plant stacks, by O. Craig. Part IV Health panel: Skin effects of air pollutants, by M. B. Sulzberger. Effects of prolonged exposure to air pollutants, by R. A. Kehoe. Effects of ionizing radiation in air pollution, by A. Wolman. Effect of loss of sunlight on human health, by H. F Blum. Respiratory tract allergic effects from chemical air pollution, by F W Wittich. Part V, Instrumentation panel: Atmospheric sampling by electrostatic precipitation, by E. C. Barnes. Direct photography of aerosol suspensions, by A. L. Cheney. The preparation, collection, and measurement of aerosols, by V K. LaMer. New developments in instrumentation for air pollution studies, by C. Brunelli and others. A recording visibility meter by A. L. Cheney. Part VI, Legislation panel. Problems in the drafting and administration of air pollution control legislation, by A. C. Stern. The legal aspects of the California air pollution control act, by H. W Kennedy. The St. Louis code and its operation, by R. R. Tucker. Part VII, Meteorology panel: Meteorological aspects of atmospheric pollution, by E. W Hewson. The problem of dispersion of hot gases in the atmosphere, by O. G. Sutton. The diffusion problem in hilly terrain, by J. Z. Holland. The application of meteorological control to atmospheric pollution problems, by M. E. Smith. Index.

Note. This volume contains the papers presented at a conference that was organized and sponsored by several departments of the United States National Government. However, the speakers included representatives of industrial corporations as well as governmental units. Altogether, there are 97 papers in the book and these are supplemented by references and transcripts of discussions. There is considerable repetition of thought among the various papers, and the book is far from a homogeneous monograph. However, it does contain a wide and varied array of information on most aspects of the current air pollution problem. Most of the papers are devoted to problems and methods in the United States of America. However, there are several British contributors and their papers outline current British activity and research in the field. The index fails to do justice to the contents of the book.

VAETH JOSEPH GORDON

200 miles up the conquest of the upper air New York Ronald Press Company 1951 207 p. illus. 24 cm. $4.50 308

Contents: The upper atmosphere: a frontier of scientific exploration. The atmospheric ocean. Upper air research instruments. Vehicles for upper air research. Project Skyhook: upper air research by balloon. The White Sands Proving Ground. Principles of rocket flight. The V-2: forerunner of modern high altitude rocketry. How a V-2 is fired. The high-flying Aerobee. The Viking, latest upper air research vehicle. Index of subjects. Index of names.

Note: Although there is much in this book about rockets, the main theme is not rockets but the scientific exploration of the stratosphere and ionosphere that rockets and high altitude balloons have made possible. The book is for general readers. Some excellent pictures of rockets and "skyhook" balloons are included.

CHEMISTRY

DICTIONARIES AND HANDBOOKS

THE CONDENSED CHEMICAL DICTIONARY a reference volume for all requiring quick access to essential data regarding chemicals and other substances used in manufacturing and research and to terms in general use in chemistry and the process industries. Francis M Turner, editorial director Fourth edition, completely revised and enlarged by Arthur and Elizabeth Rose. New York Reinhold Publishing Corporation, 1950 721 p. 23 cm. $12 00 309

Note: (807) The term "dictionary" falls short of an appropriate description of this reference book. Actually it is a condensed encyclopedia which is especially useful for its descriptions of commercial chemicals and trade-marked products. Both are described as to general characteristics, chemical compositions, properties, uses, forms, standard shipping containers, and shipping regulations, if any. In addition, general chemical terms, such as "distillation," are defined. By following a key-number to a source list in the front of the book the name of a U.S.A. manufacturer of a trade-marked chemical can be found. According to the publisher's statement, "5,000 new items" have been added to this issue. Most of the added entries appear to relate to new products marketed under trade-names, but new generic terms, such as "anti-biotic," and the new terms in radiochemistry also are included.

HAYNES WILLIAMS

Chemical trade names and commercial synonyms a dictionary of American usage. New York D Van Nostrand Company, Inc. 1951 279 p 24 cm. $5 50 310

Note A reference book which contains an alphabetical listing of more than 30,000 trade names and commercial synonyms for products of a chemical nature which were being offered for sale to industrial users in the United States of America in early 1950. The definitions characterize the product in chemical terminology, name one or more uses, and identify the manufacturer. A typical entry follows: "Genetron 101 (Gen. Chem.) difluorochloroethyl methane; refrigerant and aerosol propellant.

LANGE NORBERT ADOLPH compiler

Handbook of chemistry a reference volume for all requiring ready access to chemical and physical data used in laboratory work and manufacturing Compiled and edited by Norbert Adolph Lange, assisted by Gordon M. Forker Eighth edition Sandusky Ohio Handbook Publishers Inc. 1952 1998 p. illus 20 cm. $7 00 311

Note. (775*) One of the standard American reference books for chemical laboratories and the offices of chemists and physicists. It contains data—much of it tabulated—on such topics as atomic weights and numbers, physical constants of the elements and of compounds, flame temperatures, the composition of commercial metal alloys, the properties of materials of construction, indices of refraction of various substances, thermal properties, etc. The seventh edition appeared in 1949 and it was the first from which the appendix or second part entitled "Mathematical tables & formulas," which appeared in previous editions, was omitted. The matter which formerly appeared in this part is now published separately by this same publisher. In comparison to the seventh edition the present one is 78 pages longer. 16 tables have been revised and expanded, and material has been added on six topics not represented in preceding editions.

PATTERSON, AUSTIN MCDOWELL

A German English dictionary for chemists. Third edition. New York John Wiley & Sons, Inc. 1950 541 p 18 cm. $5.50 312

Note. (811) In the present edition a substantial number of terms has been added to this standard reference book, and some new meanings have been added for terms which were included in previous editions. As in earlier editions, the work is a dictionary *for chemists* rather than of chemistry. Chemical terms constitute the bulk, but numerous terms from the general language, such as "zinsfuss" and "toll" which might be encountered in reading chemical articles, are included. Also, there are many terms from sciences that border on chemistry.

HISTORY

CHYMIA ANNUAL STUDIES IN THE HISTORY OF CHEMISTRY Volume 2 Tenney L. Davis, editor-in-chief Philadelphia University of Pennsylvania Press 1949 143 p. illus. 24 cm. $4 00 313

Contents: The beginnings of laboratory instruction in chemistry in the U. S. A., by H. S. van Klooster. An Irish-American chemist, William James MacNeven, 1763–1841, by D. Reilly. Was Newton an alchemist? by R. J. Forbes. Boerhaave als historischer Chemiker Forscher, by E. Wiederkehr. Désormes et Clément découvrent et expliquent la catalyse, by P. Lemay. History of ambergris in India between about A. D. 700 and 1900, by P. K. Gode. Some personal qualities of Wilhelm Ostwald recalled by a former assistant, by Edward P. Hillpern. The experimental origin of chemical atomic and molecular theory before Boyle, by R. Hooykaas. Das chemische Laboratorium der Bayerischen Akademie der Wissenschaften in München, by W. Prandtl. Pulvis fulminans, by T. L. Davis. Some seventeenth century chemists and alchemists of Lorraine, by D. I. Duveen and A. Willemart. Sir Kenelm Digby alchemist, scholar, courtier, and man of adventure, by W. Miles. Index of names. Errata corrigenda.

—— Volume 3 Henry M Leicester, editor-in-chief Philadelphia University of Pennsylvania Press 1950 250 p. illus. 24 cm. $4.50. 314

Contents: Tenney Lombard Davis and the history of chemistry, by H. M. Leicester and H. S. Klickstein. The beginning of chemical instruction in America—a brief account of the teaching of chemistry at Harvard prior to 1800, by I. B. Cohen. Les appareils d'expérimentation de Lavoisier by M. Daumas. Ra-active substances in the nineteenth century by E. Farber. Le quemaca en los "Tiempos de chemie" de Ortiz, by C. E. Pritiss and A. O. Velarde. Early American chemical societies. I. The 1789 Chemical Society of Philadelphia. 2. The Chemical Society of Philadelphia, by W. Miles. The invention of printing and the diffusion of alchemical and chemical knowledge, by R. Hirsch. Wandlungen in der geschichtlichen Betrachtung der Alchemie, by W. Ganzenmüller. Boyle and Bayle—the sceptical chemist and the sceptical historian, by G. Sarton. Karl Friedrich Mohr, 1806–1879—"Father of volumetric analysis," by J. M. Scott. Henri Sainte-Claire Deville, 1818–1881 by R. E. Oesper and P. Lemay. Boerhaave Vorlesung über allgemeine Experimentalchemie, by H. Rheinboldt. The owl of Heinrich Khunrath—its origin and significance, by C. K. Deischer and J. L. Rabinowitz.

Note Original and hitherto unpublished papers on aspects of the history of chemistry make up these yearly volumes. The typical paper is a scholarly contribution addressed to other scholars who are interested in the history of chemistry, the history of science or the history of the development of knowledge in general. It is there-

mented with citations of the related literature and may be illustrated with a portrait, reproduction of a title page or other appropriate material.

FARBER, EDUARD

The evolution of chemistry a history of its ideas, methods, and materials. New York The Ronald Press Company 1952 349 p. illus. 24 cm. $6.00. 315

Contents (abridged) Period I, The emergence of chemistry as science: Survey of the period from the oldest records to the eighteenth century From the fourth millenium B. C. to the third century A. D. From the third century to the sixteenth. From the beginning of the sixteenth century to the third quarter of the eighteenth. Phlogiston and dephlogisticated air. Mines, pharmacies, and manufacturing plants. Period II, The development of chemical systems: Survey of the period from the late eighteenth century to the late nineteenth. Principles and elements. Galvanism and vitalism. Atoms and molecules. Foundations of organic chemistry The periodic system. The course of chemical change. Period III, Specialization and industrialization Survey of the period from the latter part of the nineteenth century to our own time. Matter and radiation. Chemical bond and physical form. Inorganic chemistry Organic chemistry Biochemistry List of periodicals cited. Index of authors. Index of subjects.

Note: The whole of chemical history is covered in this rather short book. The author has necessarily used a compressed style and has had to cover great developments in a few lines. His pages are sprinkled with names, dates, and quotation marks; consequently the book is not likely to attract many readers who are looking for an easily read narrative account. However, since the main events are all mentioned together with references to source articles and longer accounts and the book is fully indexed, it is useful for elementary reference.

LEICESTER, HENRY MARSHALL AND HERBERT S KLICKSTEIN

A source book in chemistry 1400–1900 New York McGraw Hill Book Company Inc., 1952 554 p. 24 cm. (Source books in the history of the sciences Gregory D Walcott, general editor) $7.50 316

Note: An anthology of well-selected writings that bear on the development and history of modern chemistry. Altogether, selections from 82 authors ranging in time from Biringuccio (1480–1539) to Marie Curie (1867–1934) are included. In most instances an author is represented by a single paper which may be complete in itself, but is more often an excerpt from a longer work. Great chemists, for instance Lavoisier, are usually represented by several selections. The words of each author are preceded by a short essay on his contributions to chemistry and at the end of the book there is a bibliography of biographies in both books and periodicals.

GENERAL

AMERICAN CHEMICAL SOCIETY

Searching the chemical literature a collection of the papers presented at the Symposium on Searching the Chemical Literature held by the Division of Chemical Literature of the American Chemical Society at the 117th national meeting in Detroit, April 16 to 21 1950 Also included are four revised papers from the Symposium on the Preparation of Literature and Patent Surveys held by the Division of Chemical Education at the 111th national meeting in Atlantic City April 14 to 18 1947 Washington D C. American Chemical Society 1951 184 p illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. four) Paper $2.00 317

Contents: Introduction, by T E R Singer The use of chemical abstracts, by E. J. Crane. Influence of nomenclatural evolution upon comprehensive literature searches, by E. H. Huntress. Indexes, happy and unhappy hunting grounds, by J. F Smith. United States and British index entries, by T E R. Singer. Relation of an abstract to its original, by G. M. Dyson. Searching the German chemical literature, by E. F Spitzer. Searching less familiar periodicals, by M. G. Mellon and R. T Power. Identification of less common forms of abbreviations of chemical journal titles, by T. G. Lebow. Theses and dissertations, by K. R. Marr Searching medicinal chemical literature, by C. R. Addinall and F G. Bacher. Exploring United States chemical patent literature, by J Fleischer. Searching United States government documents, by M. T. Ball and C. R. Flagg. Chemical trade-marks, by H. Bennett. Exploring foreign chemical patent literature, by J Fleischer. Searching the older chemical literature, by G. M. Dyson. House organs of chemical interest, by L. F Lederman. Searching for unpublished data, by M. Alexander. Methods and sources in chemical market research, by J R. Skeen. Chemical trade literature and its usefulness, by L. V R. Cheyney FIAT review of German science, by M. W Miller. Preparation of literature and patent surveys, by M. P Doss and G. A. Moncrieff. Library techniques in searching, by D. F Brown. Techniques employed in making literature searches for a patent department, by T. Hoffman. Continuous collection and classification of data as an aid in preparing surveys, by J. C. Lane and J Metcalf. Index.

Note: Current problems and methods in chemical literature searching are the main topics in this collection of original papers. Various librarians, authors, and editors tell how they approach specific problems in this field. Literature references are included, and in some instances they are unexpectedly extensive.

BABOR, JOSEPH ALBERT, AND ALEXANDER LEHRMAN

General college chemistry Third edition New York Thomas Y Crowell Company 1951 800 p. illus. 24 cm. $5.50 318

Contents (abridged) The gaseous state. The atomic-molecular hypothesis. Energy changes in chemical reactions. Chemical equilibrium. Atomic structure, electron distribution, and valence. Hydrogen. Oxygen. Water and hydrogen peroxide. Water supply and health. The solid state. Solutions. Properties of solutions. Solutions of electrolytes. Ionization. The halogens. Oxidation reduction. The sulfur family Compounds of nitrogen. Other elements of the nitrogen family Silicon. Colloid chemistry Metals and metallurgy Iron, cobalt, nickel, and the platinum metals. The alkali metals. The alkaline earth metals. Copper silver and gold. Boron and aluminum. The electrochemical cell. Tin and lead. Nuclear chemistry Appendices. Index.

Note (319) A standard introductory textbook which is specifically designed for students interested in chemistry or related sciences and who have completed a high school course in chemistry The second edition appeared in 1940. This edition represents a substantial revision and a moderate expansion. Many of the chapter titles are the same but the contents have been revised because new advances rendered the old text out-of-date. As would be expected, the discussion of radioactivity has been rewritten. Many equations are now written in ionic form and many new illustrations have been substituted for old ones. The same authors have written *Introductory college chemistry* second edition, New York: Thomas Y Crowell Co., 1950, 817 p. $4.75, for use by students who have had no previous introduction to chemistry

BENSON SIDNEY WILLIAM

Chemical calculations an introduction to the use of mathematics in chemistry New York John Wiley & Sons, Inc., 1952 214 p. 23 cm. $2 95 319

Contents: Measurement. Methods of measuring quantities of matter. Chemical formulas. Chemical reactions. Energy and chemical changes. The properties of gases. The concept of combining power—valence Measurement of solutions. The physical properties of solutions. Chemical equilibrium. Electrical properties of ionic solutions. Simple equilibria in ionic solutions The ionization of water—hydrolysis. Additional equilibria in ionic solutions. Oxidation and reduction Predicting redox reactions. Rates of chemical reactions. Appendices. Index.

Note: A more comprehensive book than the typical introduction to this field. Basic methods of calculation and related chemical concepts and terminology are explained. Numerous examples in which

equations are fully stated and are then solved step-by-step are included. The book is suitable not only for first-year college students, but also for those occasional readers who want to study the subject by themselves. The author is Professor of Chemistry at the University of Southern California.

BRINKLEY STUART ROBERT

Principles of general chemistry Fourth edition. New York The Macmillan Company 1951 703 p illus 24 cm. $5 50. 320

Contents (abridged) Substances and changes they undergo. Typical reactions. Equations and calculations. Atomic structure. Chemical equilibrium. Solutions The colloidal state. Completed ionic reactions. Hydrolysis. The hydroacids. The oxides and hydroxides of the metals. Oxidation-reduction. Nitrogen. Sulfur. The phosphorus family The elements of group IV The production of metals from ores. The transition elements. Salts. Compounds of chromium and manganese. Electric cells. The nucleus of the atom. Liquid and gaseous fuels Derivatives of the hydrocarbons. Appendix. Index.

Note (323) An outstanding introductory college textbook. It is particularly suited to students who have studied the subject in high school and intend to pursue it beyond the first college course. No major changes have been made in comparison to the preceding edition. However throughout the book there are rewritten paragraphs, new exercises, and revised lists of supplementary reading. New developments have caused such changes as the following: "Fluorine has few uses of importance (third edition) to "Fluorine and its compounds are becoming increasingly important (fourth edition)

BRISCOE HERMAN THOMPSON

General chemistry for colleges. Fourth edition. Boston Houghton Mifflin Company 1949 773 p Illus. 25 cm. $5 00 321

Contents (abridged) Matter and energy Kinds of substances and their chemical changes Structures of atoms and molecules. Oxidation and combustion. The gas laws and the kinetic molecular theory Hydrogen. Molecules and molecular weights. Atomic weights and combining capacity Solutions X-ray spectra, atomic numbers, and the structures of crystals Radioactivity The structure of matter. The oxides and other simple compounds of carbon. The atmosphere. The halogens Oxidation and reduction The alkali metals. Solutions of electrolytes. Chemical equilibrium Nitrogen and ammonia The sulfur family Silicon and related elements. Colloidal dispersions. Organic chemistry—the hydrocarbons. Carbohydrates and proteins—food and nutrition Energy in chemical change. The metals. Appendix Index.

Note (324) A widely used introductory textbook. It contains more material than some texts written at the same level and, although applications are mentioned and shown in illustrations, the main emphasis is on fundamental matters The author's style is easy to read and the publisher has given the book an attractive format. The third edition was published in 1943. The more prominent changes in the text of this edition relate to nuclear chemistry atomic energy and radioactivity However numerous changes have been made in the treatment of other topics. The type of the book has been reset and there are now two columns of print to a page.

CARNEY THOMAS PATRICK

Laboratory fractional distillation New York The Macmillan Company 1949 259 p illus 24 cm. $6 50 322

Contents Theory Mathematical treatment. Column characteristics. Theoretical plates and reflux ratio required for given separation. Separation to be expected Selection of proper columns. Bubble plate columns. Unpacked columns Packed columns. Miscellaneous packing. Rotary distillation columns Effect of variables on column characteristics. Operation of the column Vacuum fractionation. Construction of columns. Testing the column. Accessory equipment. Special columns Vapor-liquid equilibrium determinations. Azeotropic and extractive distillation Micro and semimicro fractionation Molecular distillation General bibliography Index.

Note Graduate chemists, laboratory technicians, and advanced students will find this volume a valuable and practical guide to the methods and techniques of fractional distillation Fundamental principles are discussed, but the construction and operation of laboratory distillation apparatus and especially the packing and construction of columns is emphasized. Information is provided regarding ease of operation, costs, comparative efficiency etc., of various types of apparatus. Line drawings and diagrams are used freely and a 13-page classified bibliography is included.

DEMING, HORACE GROVE

General chemistry an elementary survey emphasizing industrial applications of fundamental principles. Sixth edition. New York John Wiley & Sons Inc. 1952 656 p. illus. 24 cm. $5 75 323

Contents (abridged) The beginnings of chemistry Mixtures and substances. Atoms and molecules. Energy The properties of gases. Liquids and solids. Solutions. Electrons and valence. Acids. Neutralization and hydrolysis. The colloidal state of matter. Chemical equilibrium. Oxidation and reduction. Nuclear chemistry The hydrocarbons. Cellulose products, plastics. Elastomers, dyestuffs, medicinals. Industries based on sulfur and salt. The ceramic industries. Iron and steel. Electrochemistry The transition metals. Index.

Note. (327) A long established—the first edition was published in 1923—introductory textbook for use in college courses. One of its chief characteristics is the purposeful relating of the theoretical material to practical applications, a feature intended to stimulate the interest of engineering students. Many changes in both text and illustrations were made in preparing the present edition. Most of the new material relates, as might be expected, to developments pertaining to atomic structure and to new industrial processes and products.

DYER, WALTER SHERMAN, AND MANFRED E MUELLER

A practical survey of chemistry Revised. New York Henry Holt and Company 1950. 564 p. illus. 22 cm. $4.30 324

Contents (abridged) Nature of chemistry The background of chemistry The language of chemistry The atmosphere. Hydrogen. Water. Classification of the elements. Modern atomic theory Sand, ceramics, cement. Fertilizers, nitrogen, phosphorus, explosives. Metals. Carbon and its oxides Fuels. The hydrocarbons. Giant molecules. Fats, soaps, protective coatings. Carbohydrates, fats, proteins, digestion. Vitamins, hormones, drugs, antibiotics. Nuclear chemistry Research—mother of progress. Index.

Note. An unpretentious but useful elementary work. Selected general principles and applications of chemistry are covered descriptively in a style that encourages reading. The book is used chiefly as a text in "cultural" courses in colleges. It has some appeal also for general readers who are not in college. Many revisions and additions were made in the preparation of the present edition to bring the book up to date on such topics as the antibiotics and nuclear chemistry

FELSING WILLIAM AUGUST AND GEORGE W WATT

General chemistry Third edition. New York McGraw Hill Book Company, Inc. 1951 558 p illus 24 cm. $5.50. 325

Contents (abridged) Forms of matter. Weight relationships. The structure of atoms Properties of gases Relative weights of molecules. Solutions Acids, bases, and salts; nomenclature. Ionization. Ionic equilibria. Classification of the elements. Colloids Electrolysis. Industrial electrochemical processes. Battery cells. Metals and alloys. Heavy metals. Some binary compounds of nonmetallic elements. Commercial production of acids and bases. Nuclear chemistry Organic chemistry Appendix. Answers to problems. Index.

Note. (328) An introduction to the fundamentals of chemistry for first-year college students. The chief differences between this and the previous edition are a greater emphasis on quantitative methods and a rearrangement in the order of subject presentation. Thus, atomic structure is now discussed in the fourth instead of the fourteenth chapter and nuclear chemistry is deferred until the final chapters. The subject of chemical equilibria is treated in greater detail, and the number and variety of review problems have been increased. Answers to numerical problems are included.

HATCHER WILLIAM HOOKER

An introduction to chemical science. Second edition. New York John Wiley & Sons, Inc., 1949 449 p illus. 22 cm. $4.50 326

Contents (abridged) Part 1 Inorganic chemistry: The chemist's stock in trade. The three states of matter The atmosphere. Carbon and life Molecular and atomic weights. What is a chemical reac-

tion? Acids, bases, salts. Colloidal solutions. The periodic classification of the elements. Part 2, Organic chemistry: Pictures from the paraffins. Organic nitrogen. The carbohydrates. Fats and oils—soap—paint. Explosives—dyes—pharmaceuticals. Part 3, Food chemistry. Part 4, Industrial chemistry: Raw materials and their sources. Catalysis in industry. Ceramics. Petroleum. Chemistry in the home. Books for supplementary study. Index.

Note: (334a) An elementary college text designed for non-specialist courses and liberal arts students. The treatment is largely historical with emphasis on the practical applications of chemistry to modern life. In this revision the general format and scope of the original edition have been maintained, but some sections have been rewritten and new material included on properties of matter, atomic weights, electrolysis, metals and alloys, and the vitamins. Each chapter again concludes with summary and review questions.

HOLMES, HARRY NICHOLLS

General chemistry Fifth edition. New York The Macmillan Company, 1949 708 p. illus. 22 cm. $5.50 327

Contents (abridged) The composition of pure substances. The atomic theory. Symbols, formulas, and equations. Gases. Liquids and solids. Valence. Water and hydrogen peroxide. Carbon and its oxides. Solutions. The simple halogen acids. Ions and electrolysis. The modern theory of acids and bases. Equilibrium. Sulfuric acid and the oxides of sulfur. The periodic system. Structure of the atom. Nuclear chemistry. The atmosphere. Nitrogen and ammonia. Colloid chemistry. Compounds of the metals. Preparation of the metals. Electrochemistry. The aliphatic hydrocarbons. Rubber. The aromatic hydrocarbons. The carbohydrates. Cellulose and its esters. Dyeing. Plastics. Food and nutrition—chemotherapy. Radiation chemistry. Appendix. Index.

Note. (437) A widely used introductory textbook. Although it is designed for students who will take additional courses in chemistry about as much space is given to descriptive chemistry as to basic principles. The fourth edition was published in 1941. A considerable range of new material has been added in this edition in order to bring the work abreast of the many advances in chemical knowledge and the applications of chemistry in the past decade. The author is member of the faculty of Oberlin College.

HOLMES, HARRY NICHOLLS

Introductory college chemistry Fifth edition. New York The Macmillan Company 1951 594 p. illus. 22 cm. $5.50. 328

Contents (abridged) The field of chemistry. Matter and energy. Atoms and molecules. The composition of pure substances. Hydrogen. Oxygen. Gases. Liquids and solids. Electrovalence and covalence. Water and hydrogen peroxide. Solutions. Chlorine, bromine, iodine, and fluorine group viiB. The alkali metals, group iA. Ionic. Ions and electrolysis. Equilibrium. Structure of the atom. Radioactivity. Nuclear chemistry. Atomic fission. Sulfur and hydrogen sulfide. The atmosphere. Nitrogen and ammonia. Nitrogen fixation. The phosphorus group, B. Carbon and silicon, ivB. Compounds of the alkali metals, iA. Compounds of copper, silver, and gold, iB. Compounds of zinc, cadmium, and mercury iiB. Compounds of aluminum and boron, iiiB. Compounds of tin and lead, ivB. Compounds of chromium and manganese, viA and viiA. Compounds of iron, cobalt, and nickel, viiiA. The platinum group. Properties and uses of the metals. Alloys. Steel. Electrochemistry. Colloid chemistry. The aliphatic hydrocarbons. Rubber. The aromatic hydrocarbons. The carbohydrates. Cellulose and its esters. Plastics. Nutrition. Chemotherapy. Appendix. Index.

Note: (317) An introductory textbook which has enjoyed wide use in American colleges since the publication of the first edition in 1921. As is common in such books, the basic topics in organic and inorganic chemistry are covered in descriptive fashion with enough reference to applications to hold the interest of beginning students. The fourth edition was published in 1946. A fair amount of material on such topics as atomic energy and titanium, synthetic fibers, plastics, and the hydrogen bomb has been added in this edition. A more important change is rewriting of the sections on atomic structure so as to place more emphasis on this knowledge.

HOPKINS B SMITH AND JOHN C BAILAR, JR.

General chemistry for colleges. Fourth edition. Boston D C Heath and Company 1951 694 p. illus. (part col d) 24 cm. $6.00 329

Contents (abridged) Fundamental concepts and laws. Atomic structure; valence. The periodic system. Gas laws, kinetic theory. Water. Solutions. Colloid chemistry. Gas volumes; molecular and atomic weights. Chlorine. Chemical equations. Hydrogen halides. The oxy-compounds. Electrochemistry. Acids and bases. Nitrogen and the atmosphere. Carbon and its inorganic compounds. The metallic elements. The chemistry of the nucleus. Appendix. Index.

Note (318) A standard introductory textbook, written by two members of the faculty of the University of Illinois. Basic principles are well covered, and there is also good deal of space given to descriptions of industrial chemistry and to technical applications of chemical principles. There are 71 tables of reference data, generous number of illustrations, and selected reading lists. The chapter on the chemistry of the nucleus was added in this edition. New problems and references have been revised, and many paragraphs and larger parts have been rewritten.

LAUBENGAYER, ALBERT WASHINGTON

General chemistry New York Rinehart & Company, Inc. 1949 528 p illus. 24 cm. $5 00. 330

Contents (abridged) The laws of chemical change and the atomic theory. Substances and formulas. Chemical reactions and equations. Energy and chemical change. The gaseous state. The liquid state. The solid state. Reaction rates and chemical equilibrium. Atomic structure and the classification of the elements. Chemical bonding. Electrolytic dissociation and ionic equilibrium. Ionic reactions. Electrolysis. The halogens. The sulfur family. Nitrogen. Carbon and its inorganic compounds. Organic chemistry. Silicon and its compounds. The metals. Nuclear structure and radioactivity. Colloidal systems. Appendix. Index.

Note: An introductory textbook designed for first-year college students who require sound knowledge of the fundamentals of chemistry in preparation for further work in the field or for work in such fields as physics, engineering, or in the biological sciences. Throughout the work the exposition is closely related to the modern knowledge of the atom and other physical principles on which modern chemistry is based. Chemical bonding is explained in terms of electronic structure. The author is Professor of Chemistry at Cornell University.

MARTELL, ARTHUR EARL, AND MELVIN CALVIN

Chemistry of the metal chelate compounds. New York Prentice-Hall Inc., 1952 613 p. illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer editor) $13 50 331

Contents: Introduction. Methods of determining the presence of chelates. Stability constants. Influence of the structure of the chelating agent. Effect of metal ion. Bond type. Structure of chelate compounds. Catalytic effects of chelate compounds. Separation of metal ions. Uses of chelating agents. Appendices: Chelate stability constants. Optical activity and related properties. Glossary of terms. Thermodynamic constants for reactions of metal with chelating agents. Author index. Subject index.

Note The theoretical chemistry of the metal chelate compounds, their properties, and the uses of chelating agents are all covered in this work, which is both comprehensive monograph and a reference book of useful data. The discussions of such topics as the influence of the structure of the chelating agent are supplemented by many tables of organized data including 45 page table of chelate stability constants. Hundreds of literature references are included as footnotes. The book is of interest to graduate chemists in several branches of chemistry including analytical chemistry, biochemistry, water treatment, and dyestuffs. A basic work in the theoretical study of chelate chemistry.

PAULING LINUS

College chemistry an introductory textbook of general chemistry Illustrations by Roger Hayward. San Francisco W H. Freeman and Company, 1950 705 p. illus. 25 cm. (A series of chemistry texts, Linus Pauling, editor) $5 00. 332

Contents (abridged) The nature and properties of matter. Elements, elementary substances, and compounds. The chemical elements and the periodic law. Ions, ionic valence, and electrolysis. Covalence and electronic structure. Oxidation-reduction reactions. The halogens. The laws of electrolysis; electro-chemical processes.

The properties of solutions. Chemical equilibrium and the rate of chemical reaction. Acids and bases. Solubility product and precipitation. Complex ions. Organic chemistry. Biochemistry. The chemistry of silicon. Energy and chemical change. Nuclear chemistry. Appendices. Index.

Note: (248) A less mathematical and "easier" introduction than the author's *General chemistry*. It is somewhat better suited to the needs of students who are not planning to major in chemistry than is the earlier work. The emphasis is on basic phenomena and theory but numerous applications are mentioned. There are fuller discussions of some subjects, for example chemical equilibrium, than are commonly found in introductory texts. Most of the chapters whose titles have been omitted in the above table of contents are devoted to groups of metals or other related substances.

SCHLESINGER, HERMANN IRVING

General chemistry Fourth edition, completely revised and rewritten. New York Longmans Green and Co., 1950 811 p illus. 21 cm. $5 75 333

Contents (abridged) Some fundamental concepts of chemistry. The kinetic molecular theory. Critical phenomena and the liquefaction of gases. Atomic theory and atomic weights. Introduction to chemical equilibrium. Heats of formation of oxides. Atomic structure. The behavior of ions and ionic compounds. The law of chemical equilibrium. The alkali and the alkaline earth groups. The halogens. Nitrogen and some of its compounds. Organic chemistry and its contribution to chemistry as a whole. Silicon and some of its compounds. The colloidal condition. The copper group. The zinc group. Radioactivity and atomic fission. Appendices. Index.

Note. (250a) One of the more successful introductory texts in general chemistry. In contrast to some books of the kind, it presents a systematic and fairly solid introduction with some material on relatively advanced topics in chemistry. It has some reference value, especially in such features as the 31-page table of physical properties of the inorganic compounds. In comparison with the previous edition, this one has been reorganized and the type has been reset. Discussions of a considerable number of new topics have been added.

TIMM JOHN ARREND

General chemistry Second edition. New York McGraw Hill Book Company Inc., 1950 764 p illus 24 cm. $5 50 334

Contents (abridged) Matter Atoms and molecules Changes in matter Reactions of oxygen Valence The properties of gases. The kinetic-molecular theory Liquids. Solids. Solutions. Determination of molecular and atomic weights. The halogens. Atomic structure. The nuclei of atoms. Reaction velocity and chemical equilibria. Ionization of acids. Sulfur and the sulfides. Precipitation. The atmosphere. Nitrogen and ammonia. Oxidation-reduction reactions. Phosphorus. Carbon. Colloids. The metals. Electrolysis. Alkali and alkaline-earth metals Copper silver and gold Zinc, cadmium, and mercury Aluminum and the other metals of group IIIb. Germanium, tin, and lead, the metals of group IVb. Iron, cobalt, nickel, and the other metals of group VIII Chromium, manganese, and other transition metals The aliphatic hydrocarbons. The aromatic hydrocarbons. The chemistry of life Index

Note (251a) An introductory text in which historical information and descriptive material on applications are combined with basic knowledge to form a readable work suitable for first year college students and also for general readers in search of factual information. There are over 200 illustrations, not counting the numerous structural diagrams The first edition was published in 1944 In this edition the level of treatment has been raised somewhat and many additions of information have been made.

INORGANIC CHEMISTRY

AUDRIETH LUDWIG FREDERICK, AND BETTY ACKERSON OGG

The chemistry of hydrazine. New York John Wiley & Sons, Inc., 1951 244 p 22 cm. $5.00. 335

Contents Hydrazine as a hydronitrogen and as an ammono compound. Formation and preparation of hydrazine. Preparation of concentrated and anhydrous hydrazine. Properties of anhydrous hydrazine. Properties of aqueous solutions of hydrazine. Oxidation of hydrazine; catalytic decomposition. Quantitative determination and qualitative identification of hydrazine. Hydrazine salts. Coordination compounds of hydrazine. Anhydrous hydrazine as a solvent. The hydrazine system of compounds. Uses of hydrazine and its compounds. Index.

Note: A monograph in which the knowledge of hydrazine, N_2H_4, published down to about 1949 has been organized and summarized. References are given to the literature, including the patents. Most of the book is written from the viewpoint of theoretical and research chemists, but the chapter on uses is slanted for industrial chemists. The book was originally prepared as an Office of Naval Research report, and revisions and additions were made for this edition.

BOOTH, HAROLD SIMMONS AND DONALD RAY MARTIN

Boron trifluoride and its derivatives. New York John Wiley & Sons, 1949 315 p illus. 22 cm. $7.50 336

Contents. History and preparation of boron trifluoride. Physical properties. Chemical properties of boron trifluoride. The coordinating power of boron trifluoride. Fluoboric acids and their salts. Boron trifluoride and its derivatives as catalysts. Analyses of boron trifluoride and its derivatives. Practical handling of boron trifluoride. References. Author index. Subject index. Formula index.

Note: Boron trifluoride has been known for more than a century but it is only in the last decade and a half that its usefulness in chemical research and in industrial chemistry has been widely recognized. This book is probably the first comprehensive treatment of the compound and its derivatives. Essentially it is a digest of the extensive periodical and patent literature. The literature itself is cited in a bibliography which runs to almost 1,000 references. The book is of potential value to applied chemists in a number of fields, such as petroleum chemistry ceramics, electroplating, and plastics, as well as to chemists engaged in fundamental research.

DIEKE GERHARD HEINRICH, AND A. B F DUNCAN

Spectroscopic properties of uranium compounds New York McGraw Hill Book Company Inc. 1949 290 p. illus. 24 cm. (National nuclear energy series Manhattan Project technical section. Division III—Volume 2) $4.25 337

Contents Part I, Spectroscopic properties of uranium compounds: Experimental procedure. X-ray analyses of the crystal structure of uranyl compounds. General features of the fluorescence and absorption spectra of uranyl compounds. Fluorescence spectra of uranyl compounds. Absorption spectra of uranyl compounds. Intensity measurements. Miscellaneous observations. Miscellaneous uranium compounds. Part II, The preparation of uranium compounds. Synthesis of uranyl compounds. Preparation of other uranium compounds. Problems in synthesis. Growth of crystals. Conclusions and suggestions. Appendixes: Tables of wavelength measurements. Special preparations and apparatus. Miscellaneous contributions to the chemistry of uranium Bibliography Index.

Note Presented in this volume are the results of a comprehensive study carried out largely at Columbia University under the auspices of the Manhattan Project. Pertinent results from the literature are included and correlated. Experimental techniques—some of them new—used in the work are described. The study not only advanced the understanding of the uranyl compounds but also produced fundamental knowledge pertinent to the understanding of the solid state.

HURD DALLAS T

An introduction to the chemistry of the hydrides New York John Wiley & Sons, Inc. 1952 231 p. illus. 24 cm. $5.50 338

Contents Introduction to the hydrides. Chemical bonding and the structure of hydrides. The ionic hydrides—general considerations. The hydrides of the alkali metals. The hydrides of the alkaline earth metals. The hydrides of beryllium and magnesium. The covalent hydrides—general considerations. The hydrides of the group III elements. The hydrides of the group IV elements. The hydrides of the group V elements. The hydrides of the group VI elements. The hydrides of the group VII elements—F Cl, Br I. Acids and bases. Complex hydrides. The hydrides of the transitional elements. The borderline hydrides. Nomenclature of the hydrides. Appendices: Deuterides. Toxicology of the hydrides. The vacuum manipulation of volatile compounds. Sources of hydrides. Extended tables of phys-

ical properties and thermodynamic data for the boron hydrides. Author index. Subject index.

Note: The author has used the term "hydride" to designate binary compounds which contain one other element and hydrogen and also to designate certain compounds which are complex derivatives of binary hydrides. Most of the book consists of compact essays on specific hydrides, organized according to the following formula: tabulated statement of chemical and physical properties, discussion of the structure, descriptions of methods of laboratory preparation, discussion of properties, statement on uses and literature references. Frequent variations from this formula are found; for instance, safety precautions in handling are described for the hazardous compounds. The book is of interest both to chemists engaged in pure research and to those concerned with applications, since industrial uses are frequently mentioned in the paragraphs on uses of the individual compounds.

KILLEFFER, DAVID HERBERT, AND ARTHUR LINZ

Molybdenum compounds their chemistry and technology With a chapter on the structural chemistry of molybdenum by Linus Pauling. New York Interscience Publishers 1952 407 p. 24 cm. $10.50 339

Contents: Introduction. Sources of molybdenum compounds. Properties of molybdenum. Oxides of molybdenum. Sulfides of molybdenum. Halides of molybdenum. Molybdenum in anions. Complex anions of molybdenum. The structural chemistry of molybdenum. Molybdenum in life processes. Analytical procedures. Molybdenum in colors. Miscellaneous applications of molybdenum compounds. Molybdenum catalysts. Subject index.

Note: Essentially this work is a critical digest of the published literature bearing on the chemistry of molybdenum and on the chemical applications of the element. Metallurgical applications are not covered. The typical chapter is a condensed discussion supplemented by tabulated data and literature references. The chapter on analytical procedures is one of the longer ones in the book and consists largely of detailed descriptions of procedures used in the laboratory of the Climax Molybdenum Company. The chapter on molybdenum catalysts, together with the bibliographies of patent and other literature that accompany it, falls only a few pages short of half of the length of the whole book. Though not a well organized treatise, the work is highly useful as a guide to the literature and to the high points of the subject.

KIMBALL ALICE H., compiler

Bibliography of research on heavy hydrogen compounds edited by Harold C. Urey *and Isidor Kirshenbaum. New York* Mc Graw Hill Book Company Inc. 1949 350 p 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III—Volume 4C) $4 75 340

Note. A comprehensive bibliography of the international literature of deuterium and deuterium compounds. The main arrangement is alphabetical by authors' names, and indexes are provided to subjects and compounds. Titles of articles are given, and titles in foreign languages have been translated without, however, quotation of the original titles.

KIRSHENBAUM ISIDOR

Physical properties and analysis of heavy water Edited by Harold C Urey and George M. Murphy New York McGraw Hill Book Company, Inc., 1951 438 p illus. 24 cm. (National nuclear energy series. Division III—Volume 4A) $6.00 341

Contents: Physical properties. Equilibrium constants for exchange reactions. Isotopic analyses by the mass spectrometer. Isotopic analysis of heavy water by the mass spectrometer. Other methods of isotopic analyses of heavy water. Natural abundance of hydrogen and oxygen isotopes. Author index. Subject index.

Note: An important contribution to the literature of isotopes. It is the product of a concentrated effort, carried out at the SAM Laboratories at Columbia University to compile reliable data on the physical properties of the isotopes of hydrogen. In the course of this work, previously published data were critically evaluated and additional data were derived from new experiments. The work included the development of suitable procedures for the analysis of isotopes, and these procedures are fully described. Each chapter has appended to it a list of references. These lists include numerous project reports as well as journal articles.

KLEINBERG JACOB

Unfamiliar oxidation states and their stabilization. Lawrence University of Kansas Press, 1950 131 p. illus. 22 cm. $3.00 342

Contents (abridged): Low oxidation states of the elements of the aluminum group. Oxygen: The superoxides of the alkali and alkaline earth metals. The halogens. Copper and silver. Chromium and manganese. Iron, cobalt, and nickel. The "rare-earths." References. Index.

Note: A book of interest to advanced students majoring in chemistry and to professional chemists. In it are discussed certain oxidation states of inorganic elements which are uncommon but whose existence has nevertheless been clearly established. A good share of the book has to do with stabilization of these rare states by such means as alkaline solutions, use of solvents which possess reducing properties, and the selection of conditions which favor the desired oxidation state. The study of these states is valuable from several standpoints, such as the insight gained into atomic structure, the enabling of greater accuracy in the planning of chemical reactions, and the production of new chemical substances. Though brief, the work is based on an extensive review of the literature, and has an 8-page bibliography.

LATIMER, WENDELL MITCHELL

The oxidation states of the elements and their potentials in aqueous solutions. Second edition New York Prentice-Hall, Inc., 1952 392 p. illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer editor) $10 00 343

Contents: Units, conventions, and general methods employed in the determination of oxidation-reduction potentials. Ionization potentials, electron affinities, lattice energies, and their relation to standard oxidation-reduction potentials. Hydrogen. Oxygen. The halogens. Sulfur selenium, tellurium, and polonium. Nitrogen, phosphorus, arsenic, antimony and bismuth. Carbon, silicon, germanium, tin, and lead. Gallium, indium, and thallium. Zinc, cadmium, and mercury Copper silver, and gold. Nickel, palladium and platinum. Cobalt, rhodium, and iridium. Iron, ruthenium, and osmium. Manganese, technetium, and rhenium. Chromium, molybdenum, and tungsten Vanadium, niobium, and tantalum. Titanium, zirconium and hafnium. Boron, aluminum, scandium, and yttrium. Lanthanum and rare earth elements—the lanthanide series. The actinide elements. Beryllium, magnesium, calcium, strontium, barium, and radium. Lithium, sodium, potassium, rubidium, cesium, and francium. Appendices: Summary of oxidation-reduction potentials. The activity of strong electrolytes. The estimation of entropy values. Study questions. Author index. Subject index.

Note A reference book of thermodynamic data pertaining to the elements and their chief inorganic compounds. For each element the following information is given the number of valence electrons, the oxidation states, heats of formation, free energies of formation, entropies, and "potential diagram." If the element has more than one oxidation state. Some of the data are taken from the literature and references are given to the sources. Other data are based on the author's own calculations. In the present edition more information has been included on reaction mechanisms and there is a new chapter on uranium, neptunium, plutonium and americium. In other parts numerous changes have been made in values and constants. References to the literature published since 1938 have been added.

LATIMER, WENDELL MITCHELL, AND JOEL H. HILDEBRAND

Reference book of inorganic chemistry Third edition. New York The Macmillan Company 1951 625 p 22 cm. $4.50 344

Contents (abridged) Hydrogen. Inert gases. Oxygen. Alkali metals. Boron, aluminum. Copper silver and gold. Gallium, indium, and thallium. The halogens. Nitrogen, phosphorus, arsenic, antimony and bismuth. Carbon. Silicon. Sulfur selenium, tellurium, and polonium. Iron, cobalt and nickel. Platinum and palladium metals. The actinide elements. Nuclear reactions. Glossary Appendices. Index.

Note: (341) A compendium of reference data on such points as electronic structure, physical and chemical properties, methods of preparation, uses, and important compounds of the elements. The arrangement is by element and family of elements. Although numerous tables are included, most of the information is presented in narrative style, for instance: "Amorphous silicon is prepared by the high temperature reduction of silicon halides by alkali metals, or of the dioxide by magnesium: $SiCl_4 + 4\ Na \rightarrow Si + 4\ NaCl$." The book was originally prepared as a supplement to an introductory college text of which the current edition is: J. H. Hildebrand and R. E. Powell, *Principles of chemistry*, sixth edition, New York, The Macmillan Company 1952 444 p., $4.50. The two works are available as separate books and also bound together. However the *Reference book* may be used quite independently of the *Principles*. In comparison to the second edition, published in 1940, the work is 43 pages longer, contains one new chapter and a fair number of other revisions.

MOELLER, THERALD

Inorganic chemistry an advanced text book. New York John Wiley & Sons Inc., 1952 966 p illus 24 cm. $10 00 345

Contents (abridged) Part one, Principles: Atomic nuclei and properties related thereto. The extranuclear structures of the atom. Characteristics dependent upon the extranuclear structures. I, general—II, valency and the chemical bond. Complex ions and coordination compounds. Oxidation-reduction—oxidation potentials. Acids and bases. Non-aqueous solvents. Part two, The chemical elements. The inert gas elements. Hydrogen. The halogens. The oxygen family. The nitrogen family. The carbon family. The boron family. The alkali and coinage metals. The alkaline earth and zinc family elements. The transition elements. The inner transition elements. Appendixes: Characteristics of the naturally occurring isotopes. Members of the disintegration series. Author index. Subject index.

Note. In spite of the current interest in inorganic chemistry the subject is poorly supplied with modern textbooks, and advanced textbooks in the field are very uncommon. This work, developed on the basis of a course offered for a number of years at the University of Illinois, is a well-organized presentation of the scientific bases of modern inorganic chemistry together with a description at an advanced level of the characteristics and properties of the inorganic compounds. A typical statement from the latter part reads "nitrogen trichloride is an endothermic compound, whereas the trichloride is endothermic, the molar heats of formation being -26 ± 2 kcal. and 55.4 kcal., respectively." The text is well documented with literature references in both parts. It is potentially of interest to graduate chemists as well as to students.

SEABORG, GLENN THEODORE, AND OTHERS, editors

The transuranium elements research papers edited by Glenn T Seaborg Joseph J Katz, and Winston M. Manning. New York McGraw Hill Book Company Inc., 1949 2 v illus. 24 cm. (National nuclear energy series. Manhattan Project technical section Division IV—Plutonium Project record—Vol. 14B) $15 00 $23 75 346

Note A collection of original research papers bearing on plutonium and the other transuranium elements. The papers range in date from 1940 to as late as 1948, but most of them were written in 1943–1946 in connection with government sponsored research on the atomic bomb and atomic energy. Literature references are included and there are some diagrams of apparatus setups. The two volumes form a unit and are not sold separately.

SIMONS JOSEPH H. editor

Fluorine chemistry Volume I. New York Academic Press, Inc., 1950 615 p. illus. 24 cm. $13.50 347

Contents: Nonvolatile inorganic fluorides, by H. J. Emeléus. Volatile inorganic fluorides, by A. B. Burg. The chemistry of the fluoro acids of fourth, fifth, and sixth group elements, by Willy Lange. The halogen fluorides, by H. S. Booth and J T Pinkston, Jr. Boron trifluoride, by H. S. Booth and D. R. Martin. Hydrogen fluoride, by J H. Simons. Hydrogen fluoride catalysis, by J. H. Simons. Preparation of fluorine, by G. H Cady. Physical properties of fluorine, G. H. Cady and L. L. Burger. The theoretical aspects of fluorine chemistry by G. Glockler. The action of elementary fluorine upon organic compounds, by L. A. Bigelow. Fluorocarbons and their production, by J. H. Simons. Fluorocarbons—their properties and wartime development, by T J Brice. Fluorocarbon derivatives, by W H. Pearlson. Aliphatic chlorofluoro compounds, by J D. Park. Fluorine compounds in glass technology and ceramics, by W A. Weyl. Author index. Subject index.

Note: The first volume published of a comprehensive survey of fluorine chemistry. It is composed of monographs written by prominent chemists who have made contributions to the subject, and the editor himself has been one of the leaders in the development of the field. The book is addressed to graduate and professional chemists. Each chapter is a compact review of the literature and knowledge of a particular aspect of the subject and concludes with a comprehensive list of the pertinent literature. A second volume containing seven additional monographs is scheduled for publication.

ANALYTICAL CHEMISTRY

AHRENS, LOUIS HERMAN

Spectrochemical analysis. Arranged particularly for the D C. arc analysis of minerals, rocks and soils and applicable also to ceramic materials refractories slag biological ash and powders in general. Foreword by George R. Harrison. Cambridge Addison Wesley Press, Inc., 1950 269 p illus. 23 cm. $10 00. 348

Contents (abridged) Part I, General principles: The origin and interpretation of spectra. Some physical features of the D. C. arc discharge. Power for the arc source. Qualitative analysis. Selective volatilization. General principles of quantitative analysis. Effect of change of composition on line intensity. The photographic measurement of radiant energy and the construction of a working curve. The emission of band spectra from the arc. Part II, The elements. Bibliography. Author index. General index. Wavelength tables.

Note. The author of this practical treatment has not assumed that his readers will have had any previous experience with spectrochemical analysis, but he has assumed familiarity with basic physical concepts and terminology and with basic chemistry. The first part of the book is devoted to the general aspects of spectrochemical analysis. In the second part, semi-quantitative and quantitative analytical methods applicable to specific elements are described in detail. Numerous special points based largely on the author's experience are included in the descriptions of procedures. There are copious references to the related literature. The book is of particular interest to workers in geochemistry but it has application to analytical work in many other fields.

AMERICAN CHEMICAL SOCIETY COMMITTEE ON ANALYTICAL REAGENTS

Reagent chemicals—specifications 1950. Washington, D C. American Chemical Society 1951 401 p 24 cm. $5 00 349

Contents: Foreword. Preface. Definitions, procedures, and standards. Specifications. Index.

Note. A reference book of specifications for reagents to be used in precise analytical work. For each reagent requirements of purity are stated and standard tests for each requirement are described.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on flame photometry Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City N J June 19 1951 Philadelphia American Society for Testing Materials, 1952 120 p. illus. 23 cm. (Special technical publication no 116) Paper $2.00 350

Contents: Introduction, by R. O. Clark and L. R. Pritchard. A review of flame photometry, by V M. Maloche. A stable internal standard flame photometer for sodium, potassium, lithium and calcium analyses in biological fluids and a study of line interference, by C. L. Fox, Jr., and others. Use of the Beckman and Perkin-

Flame flame photometry for the determination of alkalies in Portland cement, by J. J. Diamond and L. Bean. Application of flame photometry for the analysis of alkalies in silicates, waters and metals, by J L. Gilliland. The determination of lithium oxide in Portland cement by flame photometer by W J. McCoy and G. G. Christiansen. Control of interferences caused by acids and salts in the flame photometric determination of sodium and potassium, by P T Gilbert and others. The effect of organic solvents on the flame photometric emission of certain elements, by G. W Curtis and others. Determination of tetraethyllead in gasoline by flame photometry by P T Gilbert, jr. Determination of calcium in lubricating oil by flame spectrophotometer by M. L. Moberg and others. A modified recording flame photometer, by W H. King and William Priestley jr. Flame photometer in the analysis of water and water-formed deposits, by R. K. Scott and others. General discussion.

Note: Recent developments in the field of flame photometric analyses form the basic theme for the papers in this symposium. Each paper is the work of an expert engaged in active research, and in most cases is the report of an original contribution to the subject. Applications of the technique in the analyses of industrially useful substances are emphasized. Bibliographies and discussions are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on rapid methods for the identification of metals. Presented at the fifty second annual meeting, American Society for Testing Materials, Atlantic City N J., June 28, 1949 Philadelphia, Pa. American Society for Testing Materials, 1950 77 p. illus. 23 cm. (Special technical publication no 98) Paper $1 75 351

Contents: Development, present state, and outlook of spot test analyses, by F Feigl. Electro spot testing and electrography by H. W Hermance and H. V Wadlow Instruments for rapid metal identification, by R. R. Webster. Separating alloys by relative spot tests, by H. Kirtchik. Rapid methods for the identification of copper-base alloys, by R. F Mercer. Rapid identification of metal finishes, by A. Lewis and D. R. Baum. Examination of plated and protective coatings by electrographic analyses, by M. Galatine and R. E. G. Ashley A field test kit and procedure for use in the rapid identification of some nickel alloys and stainless steels, by H. R. Lee. Rapid tests for identifying alloy steels, by R. C. Kirkham. General discussion.

Note: A collection of short but valuable original papers on recent developments in rapid methods for the identification or analysis of metals. The various procedures are described explicitly for the information of professional metallurgists and analytical chemists. The papers are supplemented by discussions and literature references.

BERL WALTER GEORGE, editor

Physical methods in chemical analysis. New York, Academic Press Inc., 1950–51 2 vols. illus. 24 cm. Vol. I, $13.50 Vol. II, $13.50 352

Contents (abridged) Vol. I: Absorption phenomena of X-rays and γ-rays, by G. L. Clark X-ray diffraction methods as applied to powders and metals, by W L. Davidson. X-ray diffraction as applied to fibers, by J. A. Howsmon Electron diffraction, by L. O. Brockway Spectrophotometry and colorimetry by W R. Brode, Emission spectrography by J Sherman. Infrared spectroscopy by H. H. Nielsen and R. A. Oetjen. Raman spectra, by J. H. Hibben. Polariscopic and polarimetric examination of materials by transmitted light, by C. D. West. Refractive index measurement, by L. W Tilton and J. K. Taylor. Electron microscopy by R. D. Heidenreich. Mass spectrometry, by H. W Washburn. Author index. Subject index. Vol. II: Metallurgical polarographic analysis—polarometric titrations, by J Heyrovský Conductometric analyses, by H. T S. Britton Potentiometric analyses, by H. A. Laitinen. Electrography and electro-spot testing, by H. W Hermance and H. V Wadlow Magnetic methods of analysis, by A. E. Kaufmann. The determination of the area of the surfaces of solids, by G. Jura. Surface tension measurements, by M. Dole Vacuum techniques and analyses, by R. B. Dayton. Gas analysis by methods depending on thermal conductivity by E R. Weaver The measurement of radioactivity for tracer applications, by A. Langer. Statistical analysis, by J. Sherman. Chromatographic analysis, by W G. Berl. Author index. Subject index.

Note: A treatise covering methods of chemical analysis that are of special value in analyses of complex substances. Each of the papers is essentially condensed monograph on the subject named in its title. In most of the papers the underlying theory is outlined briefly but the emphasis is always on instrument, procedures, and applications. References to pertinent literature are cited in all cases, but enough information is given in the paper itself to guide chemists in practical laboratory use of the method.

BOLTZ DAVID F editor

Selected topics in modern instrumental analysis. New York Prentice-Hall, Inc., 1952 477 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M. Latimer, editor) $8 00 353

Contents: Electrometric pH measurements, by G. A. Perley Polarographic analysis, by C. L. Rulfs. Fluorometric analysis, by C. E. White. Spectrophotometric analysis, by D. F Boltz. Spectrochemical analysis, by J. R. Churchill. Electrometric and coulometric methods of analysis, by D. F Boltz. Analytical applications of x-ray diffraction, by E. J Bicek. Mass spectrometry by C. E. Berry and H. F Wiley Raman spectroscopy by D. E. Long. Radiochemical analysis, by B. F Rider. Appendices. Index.

Note: The ever-increasing use of instruments in the analysis of organic and inorganic materials has given rise to college courses in this phase of analytical chemistry This text is designed for chemistry students taking such courses at the senior and graduate level. Each chapter has been prepared by specialist in the field, and each type of instrument is discussed as to its fundamental principles, methods of construction and operation, and applications in chemical research. Brief bibliographies, review questions, and laboratory exercises are included.

BURK ROBERT EMMETT, AND OLIVER GRUMMITT, editors

Recent advances in analytical chemistry New York Interscience Publishers, Inc. 1949 209 p illus. 24 cm. (Frontiers in chemistry Published under the auspices of Western Reserve University Vol. VII) $4.50 354

Contents. Voltammetry (polarography) and amperometric titrations, by I. M. Kolthoff. Inorganic analysis with organic reagents, by J H. Yoe. Some recent colorimetric and gravimetric organic reagents, by J. H. Yoe. Application of infrared spectroscopy in analysis, by G. Barnes. Electron microscopy and microanalysis—new methods in chemistry by J. Hillier. Fractionation, analysis, and purification of hydrocarbons, by F D. Rossini. Applications of the mass spectrometer by J. A. Hipple. Subject index.

Note: A collection of lectures originally delivered at Western Reserve University The series has as its purpose the summing up of recent developments in specific areas of analytical chemistry The lectures are addressed to advanced students of chemistry and to graduate chemists. The style of presentation is technical and references are made to the literature.

BURKE, OLIVER WALLIS, JR. AND OTHERS, editors

Light hydrocarbon analysis analytical *methods compiled and tested for the Office* of Rubber Reserve, Reconstruction Finance Corporation by the Butadiene Committee on Specifications and Methods of Analyses. Edited by *O W Burke, jr C E. Starr jr* and F D Tuemmler New York Reinhold Publishing Corporation, 1951 639 p illus. 26 cm. $15.00 355

Contents: History and function of the Committee on Butadiene Specifications and Methods of Analyses. Butadiene production program. Butadiene specifications and applicable test methods. Schemes of analysis. Sampling and handling of light hydrocarbons. Analytical methods. Preparation of samples of known composition for test program. Evaluation of accuracy and precision of methods. Index of appendix tables. Subject index.

Note: An important contribution to the literature of analytical chemistry The heart of the volume is collection of analytical methods that were compiled and critically evaluated by the committee named in the title for use in connection with the synthetic rubber program of the United States government during World War

II. In addition, there are full discussions of related topics such as safety precautions and methods of evaluating the results of analytical tests. Each of the analytical methods included is fully described with information on the required apparatus, reagents, and the detailed procedure. The work is of interest to graduate chemists engaged in analytical work in the petroleum and gas industries and in other industries using petroleum gases as raw material.

Cassidy, Harold Gomes
Adsorption and chromatography New York Interscience Publishers Inc., 1951 360 p illus. 24 cm. (Technique of organic chemistry, Arnold Weissberger editor Vol. v) $7 00 356

Contents: Definitions—molecular aspects of adsorption. Measurement of adsorption. Treatment of data. Relations between relative adsorbability and properties of phases. Relations between relative extent of adsorption and properties of adsorptive. Summary of relations. Graded eluents and adsorbents. On the nature of separation processes. Batchwise adsorption and decolorization. Lists of adsorbents. Chromatography (Tswett-column analysis, chromatographic adsorption analysis, differential countercurrent adsorption analysis) Ion exchange methods. Partition chromatography On the use of adsorption. Author index. Subject index. Cumulative indexes, volumes I–V

Note: A compact survey written on the graduate level. It is part of a series which is designed to provide a comprehensive discussion of the various techniques applicable to the study of organic compounds. There is some emphasis on basic principles; nevertheless much specific information is included on techniques, the properties of adsorbents, etc. In most sections the discussion is essentially a concise digest of the literature, and the footnote references taken together constitute an extensive bibliography of the subject. Names of the authors of the cited papers are collected in the author index, a feature that makes the book useful as a guide to the literature. The author is Associate Professor of Chemistry in Yale University

Curtman Louis Jacob
Introduction to semimicro qualitative chemical analysis. Revised edition. New York The Macmillan Company 1950 391 p illus (part col d) 21 cm. $3 75 357

Contents (abridged) Introduction. Part I, Theory Part II, The metal ions and the anions Part III, Calculations. Part IV Laboratory work. Part V The anions and the complete analysis of mixtures. Appendix. Checking in. Checking out. Assignment schedule. Suggested lecture topics. Recording notes. Desk equipment. Reagent solutions in student's rack. Side shelf solutions and reagents. Reagents. Preparation of test, known and unknown solutions. The Brasthot H₂S generator Table—solubilities and solubility products. Table of inorganic compounds. Table of logarithms. Index.

Note (881) A college laboratory textbook and manual. In the procedures described, the quantities of samples, reagents, and the sizes of apparatus are reduced to a scale of one-tenth to one-twenty-fifth of those employed in standard macro methods. Another feature is the emphasis on inorganic rather than organic reagents. In this edition important changes have been made in the laboratory procedures. The author is Emeritus Professor of Chemistry in the City College of New York

Cutting Theodore Abijah
Manual of spectroscopy Brooklyn, N Y Chemical Publishing Company Inc. 1949 220 p illus. 22 cm. $6 50 358

Contents History and theory of spectroscopy Light sources. Spectroscopes. Spectroscopic analysis. The spectroscope in metallurgy Characteristic lines of the elements. Wave-length table-chart. Appendix. Index.

Note The main purpose of this short book is to make spectroscopic techniques available to professional workers, such as chemists and assayers, who are now analyzing ores, alloys, and other inorganic materials by slower and less precise methods. The discussions of light sources, spectroscopes, and general techniques occupy approximately the first half of the book. The remainder is given over chiefly to tabulation of the characteristic lines of the elements, together with other information useful in work with minerals. The book should be especially useful to persons concerned with the analyses of ores and minerals, and its concise descriptions of instruments and techniques should be useful to anyone who is curious about the use of spectroscopy in chemical analysis

Diehl, Harvey, and G Frederick Smith
Quantitative analysis elementary principles and practice. New York John Wiley & Sons Inc., 1952 539 p. illus. 24 cm. $5 00 359

Contents (abridged) The general operations of quantitative analysis. The calculations in gravimetric analysis. Mass action and the solubility-product principle. Volumetric analysis. Theory of neutralization reactions. The practice of neutralization reactions. The theory of oxidation-reduction reactions. The practice of oxidation-reduction titrations. Volumetric reactions involving the formation of insoluble or non-dissociated compounds. Colorimetry Methods of effecting separations. Electrodeposition. The analysis of brass. The analysis of limestone. The determination of pH colorimetric and potentiometric methods. Errors; accuracy and precision; confidence limits. Appendix. Glossary Index.

Note: A modern textbook in which quantitative analysis is presented for students with serious interests in analytical chemistry Although theory is not entirely omitted, the emphasis is on techniques. Some instrumental techniques are covered, and the reagents mentioned include recently developed ones such as versene. The treatment does not assume a previous introduction to analytical chemistry in a course in qualitative analysis.

Fister, Harold John
Manual of standardized procedures for spectrophotometric chemistry With a foreword by Margaret A. Baker New York Standard Scientific Supply Corporation, 1950 loose-leaf, unpaged illus. 30 cm. $30.00 360

Note. A laboratory reference book that provides specific details and directions for tests and analyses with the spectrophotometer in clinical laboratories. For such substances as albumen, directions are given for several different procedures. Information provided on each procedure includes literature references, general principles, apparatus and reagents needed, a step-by-step description of the technique, and a calibration curve for use with the Coleman spectrophotometer

Foulk Charles William and others
Quantitative chemical analysis an introduction to the science and practice of chemical measurement. [By] Charles W Foulk, Harvey V Moyer [and] William M. Mac Nevin. New York McGraw Hill Book Company Inc., 1952 484 p. illus. 24 cm. $5 00 361

Contents. Introduction. The chemical balance and its use. Common operations of quantitative analysis. Apparatus for gravimetric analysis. The operations of gravimetric analysis. Calculations in gravimetric analysis. The solubility of analytical precipitates Analytical precipitates. Volumetric apparatus and its calibration. Volumetric solutions and their standardization. Calculations in volumetric analysis. Hydrogen ion concentration of aqueous solutions of acids, bases, and salts Oxidation-reduction reactions in volumetric analysis. Precipitation reactions and complex formation in volumetric analysis. Errors and statistical methods in chemical analysis. Oxidation-reduction potentials. The potentiometric measurement of pH values. Electrometric titrations. Electrolytic analysis. Colorimetric analysis. Exercises. Appendixes. Name index Subject index.

Note. An introductory work for use in college courses. The underlying theory is presented in the first part of the book, and the laboratory exercises are described separately in the latter part. As the table of contents shows, most of the space is given to gravimetric and volumetric methods of analysis, but there is some discussion of instrumental methods. The authors are members of the faculty of Ohio State University

Friedel Robert Augustine, and Milton Orchin
Ultraviolet spectra of aromatic compounds. New York John Wiley & Sons Inc. 1951 52 p illus 27 cm. $10.00 362

Contents Purpose and scope of the collection. Spectrometric nomenclature and the absorption law for solutions. Instruments and experimental procedure. Theoretical aspects of ultra violet absorption spectra. The use of ultraviolet spectra in qualitative analysis. Quantitative analyses. Use of the catalogue. Acknowledgment. Collection of spectra. Name index of spectra. Formula index of spectra.

Note A collection of the ultraviolet spectra of 179 polynuclear aromatic compounds together with some expert discussion of the use of such spectra in chemical analysis. According to the authors, about half of the included spectra have been taken from the published literature and the other half are original determinations by the authors and other workers in Bureau of Mines laboratories. Graduate chemists interested in the use of ultraviolet absorption spectra in organic analysis will use the book as reference tool and as an introduction to ultraviolet spectroscopy

GRIFFIN CARROLL WARDLAW, AND MARY ALYS PLUNKETT

Inorganic semimicro qualitative analysis. New York The Blakiston Company, 1951 299 p. illus 23 cm. $4 75 363

Contents: Part I, Theory Atomic structure, valence and types of compounds. Solutions of electrolytes. Chemical equilibrium. Hydrolysis. Heterogeneous equilibrium. Complex ions and amphoterism. Oxidation and reduction—reactions—theory Part II, Analysis Laboratory techniques. Preparation of sample. The silver group. The copper-arsenic group. The aluminum-iron group. The alkaline earth group. The soluble group. The anions. Appendix. Index. The common logarithms of the natural numbers.

Note: A textbook and laboratory manual for college undergraduates who have completed year of general inorganic chemistry The discussion of theory in Part is sufficiently inclusive to form good foundation for more advanced theoretical studies. In Part II the procedures for the various analyses are presented in convenient form which includes schematic diagrams of the reactions. The authors are members of the Department of Chemistry of Vassar College.

HAMILTON LEICESTER F , AND STEPHEN G SIMPSON

Quantitative chemical analysis. Tenth edition. Formerly Talbot s *Quantitative chemical analysis* New York The Macmillan Company 1952 529 p. illus. 21 cm. $4 50 364

Contents. Part I, Introduction General considerations. General directions. Common analytical operations. The analytical balance. The precision of analytical measurements Review of some basic principles. Part II, Volumetric analysis. General directions for volumetric work. Neutralization methods. Acidimetry and alkalimetry. Oxidation-reduction (redox) processes. Oxidation-reduction (redox) titrations. Permanganate process. Dichromate and ceric processes. Iodimetry (iodometry) Precipitation methods ("precipitimetry") Complex formation methods ("complexometry") Part III, Gravimetric analysis; General principles of gravimetric analysis. Analyses of soluble salts. Analysis of an ore. Analyses of nonferrous alloy Part IV Instrumental methods: Potentiometric methods. Conductometric methods. Amperometric methods. Optical methods. Gas-volumetric methods Part Miscellaneous determinations. Appendix. Index.

Note: (315*) A standard introductory text and laboratory manual which has been used in successive editions for fifty five years. It is organized so that the student can acquire full understanding of the chemical theory involved as he learns the details of quantitative analytical techniques The present edition represents considerable revision in which the space given to theory has been increased along with other changes The authors are members of the faculty of Massachusetts Institute of Technology

HEISIG GLADSTONE BERING

The theory and practice of semimicro qualitative analysis. Second edition Illustrated. Philadelphia W B Saunders Company 1950 356 p illus 22 cm. $4 00. 365

Contents (abridged) Part I, Theoretical. Part II, Experimental: The cations. The anions. Appendix. Reference books. Equilibrium constants. Oxidation-reduction potentials Reagents Equipment. Logarithm tables. Index

Note: (894) An introductory text and laboratory manual for use in college courses. The laboratory procedures require the use of 0.1 mg. samples and solution volumes ranging from two drops to 1.5 ml. The first edition appeared in 1943. In the present edition there have been some changes in both the theoretical and the experimental parts. The author is Associate Professor in Organic Chemistry in the University of Minnesota.

KELSEY, ERWIN BURR, AND HAROLD G DIETRICH

Fundamentals of semimicro qualitative analysis. Revised edition. New York The Macmillan Company 1951 328 p. illus. 22 cm. $4.25 366

Contents (abridged) Section one, Fundamental theory Section two, Analytical procedure. Part I, The systematic cation analysis. Part II, The analysis for the non metal ions. Part III, The analysis of solids. Appendix. Index.

Note: (900) An introductory text and laboratory manual for college courses. The procedures employ original samples of the order of 0.5 ml. (about ten drops) in which the amounts of the individual ions present average about 1 mg. It has been extensively rewritten in the present edition and the type has been reset. The authors are members of the faculty of Yale University

KIRK PAUL LELAND

Quantitative ultramicroanalysis. New York John Wiley & Sons Inc., 1950 310 p. illus. 23 cm. $5.50 367

Contents: Introduction. Volumetric apparatus and technique. Colorimetry: apparatus and technique. General apparatus and technique. Microgram turbimetry Metallic constituents: titrimetric methods. Non metallic constituents: titrimetric methods. Volumetric gas methods. Spectrophotometric methods. Physical methods. Index.

Note. Standard methods require samples of about one milligram in size. In this new book more refined technique is described, in which quantities as small as one microgram may be used. Apparatus and practical laboratory procedures are both discussed in full detail. There are more than 100 illustrations, most of which pertain to apparatus. The book is intended for graduate students and advanced researchers who are familiar with standard methods.

KOLTHOFF IZAAK MAURITS AND E B SANDELL

Textbook of quantitative inorganic analysis. Third edition. New York The Macmillan Company 1952 759 p. illus. 24 cm. $6.50 368

Contents (abridged) Stoichiometry Gravimetric analysis: Theoretical part, practical part, gravimetric determinations. Volumetric analysis. Theoretical part, practical part, volumetric determinations. Physical and physicochemical methods of analysis. Analyses of complex materials Appendix Index.

Note: (904) A successful college textbook and laboratory guide. The expositions of theory and the descriptions of apparatus and laboratory procedures are fuller and somewhat more advanced than in some introductory texts in this field. Literature references are included. The second edition appeared in 1943. Fairly extensive revisions were made in preparing this edition.

MELLON MELVIN GUY editor

Analytical absorption spectroscopy, absorptimetry and colorimetry New York John Wiley & Sons Inc., 1950 617 p. illus. 23 cm. $9 00 369

Contents: Chemistry: Preparation of systems for absorptiometric measurement, by M. L. Moss. Physics: General principles of absorptiometric measurements, by M. G. Mellon. Color comparimeters, by W. B. Fortune. Filter photometers, by R. H. Muller Spectrophotometers—ultraviolet and visible regions, by K. S. Gibson. Photographic methods, by K. R. Hobday Applications of ultra-violet and visual spectrophotometric data, by R. L. Bowman. Spectrophotometers—infrared region, by L. J Brady Measurement and specification of color by D. B. Judd. Index.

Note The principles and techniques of absorption spectroscopy as an analytical tool are presented in this important contribution to the literature of analytical chemistry Each chapter is in effect short monograph by specialist, and is accompanied by bibliography of

the pertinent literature. Although available instruments are described, more attention is paid to their operating principles and the techniques of their use. The book is intended for professional chemists. It is of some interest to physicists as well.

MÜLLER, OTTO HEINRICH

The polarographic method of analysis. Second edition Easton Penn. Chemical Education Publishing Co., 1951 209 p. illus. 21 cm. (Contributions to chemical education. No. 2) $3 50 370

Contents: Introduction and review of electro-analytical methods. Apparatus. Fundamentals of quantitative analysis. Fundamentals of qualitative analysis. Polarometry. Recent developments. Applications. Suggestions for practical polarography. Appendix. General polarographic references. List of experiments. Index.

Note: A short but reliable introduction to an important instrumental technique in chemical analysis. The technique is compared with other methods based on electric current. Typical apparatus is described and applications and limitations are discussed. Embodied in the text are directions for twenty-four laboratory experiments. The first edition appeared in 1941 and consisted of reprints of a series of five articles that had appeared in the *Journal of chemical education.* The work has been extensively revised in this edition.

NACHTRIEB NORMAN HARRY

Principles and practice of spectrochemical analysis. New York McGraw Hill Book Company Inc. 1950 324 p illus. 23 cm. $5 00 371

Contents (abridged) Part I, The principles of spectrochemical analysis. The role of spectroscopy in analytical chemistry. Prism spectrographs and the refraction of light. The diffraction of light by slits and gratings. The photographic process. The evaluation of photometric data. Direct-reading spectrometers. The origin of spectra. Part II, The practice of spectrochemical analysis: The excitation of spectra. The quantitative analysis of metals. Qualitative analysis. The analysis of refractory materials. The analysis of solutions and soluble salts. Chemical separations in spectrochemical analysis. Index.

Note A practical and rather thorough text for advanced college students and professional chemists who are just beginning to use spectrochemical analysis. The emphasis is on principles, but standard apparatus and its elements are adequately described. The basic physical principles and the chief instruments are discussed in the first part. The second part serves to introduce the reader to practical use of the techniques of spectrochemical analysis. Auxiliary techniques, such as precipitation of impurities, extraction by solvents, fire assay and electrolytic concentration, which are useful in association with spectrochemical methods, are briefly outlined in the final chapter. The scope of the work is limited to emission spectroscopy in the ultraviolet and visual ranges.

OELKE WILLIAM C

Semimicro qualitative analysis. Boston D C. Heath and Company 1950 377 p. illus. 22 cm. $4 00 372

Contents (abridged) Part I, General theory. The solubility of solids. Acids, bases, and salts. Polybasic acids and bases and hydrolysis. Oxidation and reduction. Complex compounds. Part II, Laboratory and applied theory. Semimicro technique. Anion analysis. Cation analysis. Systematic analysis. Appendixes. Reference and tabular section. Data section. Index.

Note An introductory textbook designed for study by students who have completed a college course in general chemistry. It contains both material for classroom instruction and directions for laboratory work. The author is Chairman of the Department of Chemistry of Grinnell College.

PATTERSON ANDREW JR., AND HENRY C THOMAS

A textbook of quantitative analysis. New York Henry Holt and Company 1952 500 p illus. 22 cm. $4.25 373

Contents: The principles of analytical chemistry—stoichiometry. Volumetric methods—titrations with permanganate. Volumetric determinations of acids and bases. Precipitation and complex-forming titrations. Oxidation-reduction reactions and oxidimetric determinations. Procedures used in gravimetric analysis. Preparation and properties of precipitates. Chemical analysis. Some physical methods of chemical analysis. Index.

Note. A substantial introductory text in which the necessity for learning to think in terms of moles and equivalents, understanding the bases of quantitative analytical techniques, and learning the techniques of careful measurement are stressed. Directions for a limited number of laboratory exercises in quantitative determinations are interspersed throughout the book. However much less space is given to such exercises than in some introductory texts in the subject. The authors are both associate professors of chemistry in Yale University

RANDALL, HARRISON MCALLISTER, AND OTHERS

Infrared determination of organic structures by H. M Randall, R. G Fowler, Nelson Fuson and J R. Dangl. New York D Van Nostrand Company Inc. 1949 239 p. illus 29 cm. $12 75 374

Contents: The application of infrared spectroscopy to chemical analysis. Interpretation of specific structure groups and methods for recognition of these groups. A catalogue of empirical structural assignment for the double-bond region. A structural assignment catalogue for theoretically analyzed molecules. Application of the infrared method in practice. Instruments and experimental techniques. Spectra of various compounds. Index.

Note: Important contributions to the applications of infrared spectroscopy in chemical analysis and to the spectra of specific compounds are presented in this work. The tables of empirical structural assignments in the third chapter also are new. Spectrographs are included for 313 compounds, most of which are complex hydrocarbons.

RIEMAN, WILLIAM III, AND OTHERS

Quantitative analysis a theoretical approach. Third edition. By William Rieman, III Jacob D Neuss and Barnet Naiman. New York McGraw-Hill Book Company, Inc. 1951 523 p illus. 24 cm. (International chemical series, Louis P Hammett, consulting editor) $5.50 375

Contents (abridged) Common apparatus and operations. Fundamentals of volumetric analysis. Potentiometric measurements. Estimation of salts, acids, and bases. Acidimetry and alkalimetry. Theory of oxidation. Determination of iron in an ore. Iodimetry. Gravimetric determination of aluminum. Coprecipitation. Determination of chloride. Determination of sulfur. Determination of manganese. Photometric methods. Determination of phosphorus. Organic reagents—determination of nickel and aluminum. Analysis of brass or bronze—electroanalysis. Ion exchange—determination of arsenic. Appendix. References. Reagents and chemicals. *Name index.* Subject index.

Note (917) An established textbook for use in introductory college courses. An important feature is the interrelating of theory and laboratory analytical procedures. Other special features are the chapter on coprecipitation, the use of redox potentials, and the treatment of ionic constants as functions of ionic strength. The chapter on ion exchange has been newly added in this edition, the descriptions of certain techniques are considerably more detailed; the chapter on colorimetric methods has been enlarged, and there are minor changes in other parts of the text. The list of references has been revised.

SANDELL ERNEST BIRGER

Colorimetric determination of traces of metals. Second edition revised and enlarged. New York Interscience Publishers, Inc. 1950 673 p. illus. 23 cm. (Chemical analysis a series of monographs on analytical chemistry and its applications editors Beverly L. Clarke and I. M. Kolthoff Vol. III) $9 75 376

Contents: General part, Colorimetric trace analysis: Trace analysis. Methods for the separation and isolation of traces of substances.

Colorimetry and spectrophotometry in trace analysis. General colorimetric reagents. Special part. Procedures for the determination of traces of metals: Aluminum. Antimony. Arsenic. Barium. Beryllium. Bismuth. Cadmium. Calcium. Cerium. Chromium. Cobalt. Columbium and tantalum. Copper. Gallium. Germanium. Gold. Indium. Iridium. Iron. Lead. Lithium. Magnesium. Manganese. Mercury. Molybdenum. Nickel. Osmium. Palladium. Platinum. Potassium. The rare earth elements. Rhenium. Rhodium. Ruthenium. Scandium. Silver. Sodium. Thallium. Tin. Titanium. Tungsten. Uranium. Vanadium. Zinc. Zirconium. Appendix. Author index. Subject index.

Note: (935) This volume presents a collection of modern methods for the colorimetric determination of traces of elements, especially of metals. Described under the names of the elements there are limited number of methods which in the author's experience have proved best for dealing with traces of the respective elements. The book is addressed to graduate chemists. The second edition is one-third again as large as the original edition. Many new procedures are described.

Siggia Sidney

Quantitative organic analysis via functional groups. New York John Wiley & Sons, Inc. 1949 152 p. illus. 22 cm. $3.50 377

Contents: Hydroxyl groups. Carbonyl groups. Carboxylic acids, salts, esters, amides. Alkoxyl and alkimide groups. Unsaturation. Active hydrogen compounds and compounds which react with Grignard reagent. Acetylenic hydrogen. Acetal, ketal-type compounds, and vinyl alkyl ethers. Amino groups. Hydrazines. Diazonium salts. Titanous chloride reduction (—N=N—, —NO₂, —NHOH—). Mercapto groups. Dialkyl sulfides. Alkyl disulfides. Sulfonic acids and salts. Peroxides. Isocyanates and isothiocyanates. Vinyl ethers. Oxirane oxygen (epoxide compounds). Water in organic compounds. Miscellaneous procedures. Quantitative separation of components in mixture. Some instrumental methods applicable to quantitative analyses. Weighing of volatile or corrosive liquids. Index.

Note: Analytical methods described in this manual are based upon the use of functional groups on the molecule for the determination of unknown organic compounds in contrast to the more usual method of analysis for the elements present in the unknown. One or more methods are described for determination of each of the common functional groups or linkages, such as carbon-to-carbon unsaturation. Each method is fully described with complete laboratory procedures. The descriptions of the procedures are followed by several chapters in which allied techniques such as instrumental methods are discussed. The book is intended for advanced students and analytical chemists already at work in laboratories and industry.

Snell, Foster Dee, and Cornelia T Snell

Colorimetric methods of analysis including some *turbidimetric and* nephelometric methods. Volume II, Inorganic. Third edition. New York D Van Nostrand Company Inc. 1949 950 p illus. 24 cm. $12.50 378

Note: (935a, 314*) The standard reference manual of this subject. In this volume there are 66 chapters ranging from lead to cerium, each chapter being devoted to a single element or substance or (in few instances) group of substances. The chapters are compendiums of concise, specific descriptions of analytical procedures applicable to various kinds of samples. For example, the chapter on copper includes the analyses by colorimetric methods for this element of such products as soil, water, animal organs, milk, plant tissue, glass, fruit spray residues, and lubricating oil. References to the international literature are furnished in the form of footnotes. The preceding edition of this volume was published in 1937. As might be expected in view of the rapid development of the field, this edition represents a very extensive revision in which a majority of the procedures described are not to be found in the 1937 edition.

Steyermark Al

Quantitative organic microanalysis. Philadelphia The Blakiston Company 1951 389 p. illus. 23 cm. $7.00 379

Contents (abridged): Weighing on the microchemical balance. Preparation of samples for analysis. The determination of metals by the ashing technic. Determination of nitrogen by the micro-Dumas method. The microdetermination of carbon and hydrogen. Standard substances. Microdetermination of nitrogen by the Kjeldahl method. Determination of sulfur. Determination of halogens. Determination of phosphorus. Determination of arsenic. Determination of oxygen. Determination of the neutralization equivalent (determination of basic hydrogen, carboxyl groups). Determination of alkoxyl groups (methoxyl and ethoxyl). Determination of acetyl groups. Determinations carried out on the Van Slyke manometric apparatus. Manometric carbon determination. Manometric determination of primary amino nitrogen in aliphatic α-amino acids. Determination of molecular weight. Determination of some physical constants. Calculations. Author index. Subject index.

Note: The author of this work is Head of the Microchemical Department of Hoffmann-La Roche, Inc., Nutley New Jersey. The order in which the chapters are presented is the same order in which microchemical techniques and procedures have been taught over a period of eight years to new members of his department. The publication is accordingly for the beginning microanalyst who is a graduate in chemistry. It is also of interest to experienced microanalysts. The methods and equipment are described in detail; in some cases alternative methods are also given. The bibliographical citations at the ends of the chapters are extensive.

Walton, Harold Frederic

Principles & methods of chemical analysis. New York Prentice-Hall Inc. 1952 435 p. illus. 22 cm. $8 65 380

Contents. Introduction. The physical properties of precipitates. Impurities in precipitates. The drying and ignition of precipitates. Electrolytic methods of analysis. Organic precipitants. Complex ions in analytical chemistry. Ion exchange methods in analytical chemistry. Separation by vaporization and extraction. Volumetric analysis—introduction. Oxidation-reduction potentials. Methods of potentiometric titration. Acid base titrations. Acid base indicators. Oxidation-reduction titrations. Volumetric oxidation-reduction methods in organic chemistry. Oxidation reduction indicators. Precipitation titrations. Complex-forming titrations. Conductometric titrations. Appendixes: Bibliography of selected texts. Selected methods for determination of the elements. Tables of data. Answers to problems. Index.

Note: An advanced survey in which the emphasis is on basic matters. However there are also many details and special points derived from experience which will be helpful to analytical chemists. The book is valuable also for the discussion of special problems in analysis, for example, the titration of fluorides. Instrumental methods of analysis are not covered, but much of the material presented is basic to the intelligent use of analytical instruments. Abundant literature references are supplied as footnotes and in the second appendix. The latter feature makes the book a useful reference tool for graduate chemists.

Willard Hobart Hurd and others

Instrumental methods of analysis. By Hobart H. Willard Lynne L. Merritt, Jr., and John A. Dean. Second edition. New York D Van Nostrand Company Inc., 1951 344 p illus. 29 cm. $5.50 381

Contents. Visual colorimeters. Fundamental laws of colorimetry. Photoelectric colorimeters and fluorescence meters. Turbidimeters and nephelometers. Spectrophotometry and flame photometry. Spectrography. X ray diffraction methods. Radioactivity. The refractometer and interferometer. Polarimetry. Thermal conductivity and other methods for the analysis of gases. Mass spectrometry. The centrifuge. Determination of the pH of a solution. Potentiometric titration methods. Conductance methods. Electroanalysis. Polarography. Amperometric titration methods. Miscellaneous methods. Chromatographic analyses. Appendix. Index.

Note: (319*) An introductory textbook designed primarily for use in college courses offered to advanced undergraduate students. Each class of instrument is described as to purpose, method of operation, advantages and disadvantages in practical chemical analyses. However the book is not a handbook on all commercially available instruments. The first edition appeared in 1948. About 100 pages have been added in the present edition. Chapters carried over have been revised and extended and the chapters on polarimetry, miscellaneous methods, and chromatographic analysis have been added.

ORGANIC CHEMISTRY

Advances in carbohydrate chemistry Volume 6 Edited by Claude S Hudson and Sidney M. Cantor New York Academic Press Inc. 1951 442 p 24 cm. $8 50 382

Contents: Obituary of Walter Norman Haworth, by E. L. Hirst. The methyl ethers of D-galactose, by D. J. Bell. The synthesis of oligosaccharides, by W. L. Evans and others. The formation of furan compounds from hexoses, by F. H. Newth. Cuprammonium glycoside complexes, by R. E. Reeves. The chemistry of ribose, by R. W. Jeanloz and H. G. Fletcher. The 2-(aldo-polyhydroxyalkyl) benzimidazoles, by N. K. Richtmyer. Trends in the development of granular adsorbents for sugar refining, by E. P. Barrett. Aconitic acid, by-product in the manufacture of sugar, by R. E. Miller and S. M. Cantor. Friedel-Crafts and Grignard processes in the carbohydrate series, by W. A. Bonner. The nitromethane and 2-nitroethanol syntheses, by J. C. Sowden. Errata. Cumulative subject index for volumes 1–5. Author index for volume 6. Subject index for volume 6.

Note. (323*) As in the previous volumes of this series, each of the papers is a compact, critical digest of the current knowledge of an area under active investigation or of current interest for some other reason. In some instances recent advances in knowledge not published elsewhere are included in a paper. The series is addressed to graduate chemists. Each paper is supplemented by an extensive bibliography in the form of footnotes.

ADVANCES IN PROTEIN CHEMISTRY Volume VII. Edited by M. L. Anson, Kenneth Bailey and John T. Edsall. New York Academic Press, Inc., 1952 411 p illus. 23 cm. $8.50 383

Contents: The arrangement of amino acids in proteins, by F. Sanger. The structure of collagen fibrils, by R. S. Bear. Muscle contraction and fibrous muscle proteins, by H. H. Weber and H. Portzehl. The proteins of the mammalian epidermis, by K. M. Rudall. Infrared analysis of the structure of amino acids, polypeptides and proteins, by G. B. B. M. Sutherland. Ultraviolet absorption spectra of proteins and amino acids, by G. H. Beaven and E. R. Holiday. Author index. Subject index.

Note. (315*) The latest volume in a well-known series in biochemistry.

ALEXANDER, ELLIOT RITCHIE

Principles of ionic organic reactions. New York John Wiley & Sons, Inc., 1950 520 p. illus. 23 cm. $5.50 384

Contents (abridged): Factors influencing distribution and mobility of electrons. Carbonium ions. Displacement reactions. Elimination reactions. Carbanions. Addition reactions of carbon-carbon double bonds. Carbanion addition to carbonyl groups. Carbanion displacement reactions. Formation and cleavage of ethers. Esterification and hydrolysis. Substitution on the benzene nucleus. Diazonium reactions and the Wolff-Kishner reduction. Miscellaneous reactions involving the migration of a double bond. Author index. Subject index.

Note: This book is concerned with the mechanisms—interpreted in terms of electron configurations—of common organic reactions. Similarities between organic reactions rather than differences are stressed, with the purpose of aiding the experimental organic chemist in understanding and predicting reactions. The work is designed for advanced undergraduates majoring in organic chemistry and for graduate chemists engaged in experimental work. Related literature is cited in footnotes throughout the book.

ALFREY TURNER, JR. AND OTHERS

Copolymerization. By Turner Alfrey Jr John J Bohrer and H. Mark. New York Interscience Publishers Inc. 1952 395 p illus. 24 cm. (High polymers, a series of monographs on the chemistry physics and technology of high polymeric substances. Editorial board H. Mark and others. v 8) $6.80 385

Contents: Introduction. Kinetics of copolymerization. Monomer structure and reactivity with free radicals. Detailed discussion of monomer reactivities in terms of resonance and polarity. Effect of temperature and environment on copolymerization reactivity ratios. The polymerization of tri- and multicomponent systems. Detailed structure of copolymer chains. Drift of copolymer composition with increasing conversion. Copolymerization involving divinyl monomers. Copolymerization behavior of 1,3-dienes. Rates and molecular weights in copolymerization. Copolymerization by ionic mechanisms. Influence of copolymerization on physical properties of polymeric systems. Author index. Subject index.

Note: A monographic survey of the development and present state of the knowledge of copolymerization, a complex chemical process that is basic to the synthetic rubber and plastics industries. The emphasis is on the scientific foundations, and applications are mentioned only incidentally. The book is addressed to graduate chemists. Bibliographies that include both journal and patent citations are appended to the chapters.

ALLEN CHARLES FRANCIS HITCHCOCK

Six membered heterocyclic nitrogen compounds with four condensed rings. In collaboration with D M. Burness Jean V Crawford F W Spangler Eleanor R. Webster and C. V Wilson. New York Interscience Publishers Inc., 1951 345 p. illus. 24 cm. (The chemistry of heterocyclic compounds a series of monographs, Arnold Weissberger consulting editor) $10 00 386

Contents: Azanaphthacenes. Azabenz[a]anthracenes. Azabenzo[c]phenanthrenes. Azachrysenes. Azatriphenylenes. Azabenzanthrenes. Azapyrenes. Azabenzanthrenes—addendum. Index.

Note: The second volume published of a series which is planned to cover comprehensively the chemistry of heterocyclic compounds. Each of the chapters is a compact summary of the available information of the sub-group named in its title. The individual compounds which have been reported are described and the available information on structure and properties is given. Methods of synthesis and reactions are often indicated. The text is carefully keyed to a comprehensive bibliography that includes patents. Every compound mentioned is brought out in the very detailed index.

BAMBAS LOUIS L.

Five-membered heterocyclic compounds with nitrogen and sulfur or nitrogen sulfur and oxygen (except thiazole) New York Interscience Publishers, Inc., 1952 403 p. 24 cm. (The chemistry of heterocyclic compounds, a series of monographs Arnold Weissberger consulting editor) $14 00. 387

Contents. Part I, Thiadiazoles, their derivatives and selenium analogs: Derivatives of the 1,2,3-thiadiazoles and their selenium analogs. Derivatives of the 1,2,4-thiadiazoles and their selenium analogs. Derivatives of the 1,3,4-thiadiazoles and their selenium analogs. Derivatives of the 2,1,3-thiadiazoles and their selenium analogs. Part II, Five-membered rings containing nitrogen, sulfur, selenium, or oxygen atoms in addition to one sulfur and one nitrogen. Part III, Isothiazoles, their derivatives and selenium analogs: 2,1-benzisothiazoles. 1,2-benzisothiazoles, their homologs and selenium analogs. 1,2-benzisothiazolones, their homologs and derivatives. Index.

Note. Essentially an organized presentation of information previously published in the periodical literature. The text is very condensed, but all statements are keyed to the source articles. Structural diagrams are given for all compounds and most reactions are also diagramed. There are 71 tables of data on groups of compounds. Literature references are given in footnotes. No index to the authors of cited papers has been included; however, the subject index is fully detailed. The book is of interest to graduate chemists.

BROOKS BENJAMIN TALBOTT

The chemistry of the nonbenzenoid hydrocarbons. Second edition revised and enlarged. New York Reinhold Publishing Corporation 1950 615 p illus. 24 cm. $12.00 388

Contents (abridged): Natural occurrence of the paraffins. Physical properties. Methods of synthesis of paraffins and cycloparaffins. Oxidation of paraffins and cycloparaffins. Reactions of paraffins and cycloparaffins with chemical reagents. Olefinic hydrocarbons: methods of preparation. Isomerization. Polymerization of unsaturated hydrocarbons. Alkylation of unsaturated hydrocarbons. Oxidation of unsaturated hydrocarbons. Other chemical reactions of olefins. The dienes, trienes, and polyenes. Acetylenes. The cycloparaffins. Author index. Subject index.

Note. A concise survey of the hydrocarbons that do not contain the benzene ring structure. When the first edition (published in 1922) was prepared, most organic chemists were interested in the chemistry of the benzene ring and most organic chemical literature was devoted to benzene compounds. The book was planned chiefly

to call attention to the chemistry of the other hydrocarbons, especially those found in petroleum. Since 1933 much more has been published on the nonbenzenoid hydrocarbons, but this book still holds its place as a well-organized and useful monograph. Much material, including new chapters on acetylenic compounds, the dienes, trienes, polyenes, and thermal decomposition of paraffins, has been added in this edition. In effect the entire work has been rewritten.

BURK ROBERT EMMETT, AND OLIVER GRUMMITT editors

High molecular weight organic compounds. New York Interscience Publishers Inc., 1949 330 p illus. 24 cm. (Frontiers in chemistry Published under the auspices of Western Reserve University Vol. VI) $6.00 389

Contents. Polymerization in suspension and emulsion, by W P Hohenstein and H. Mark. Osmometry and viscosity of polymer solutions, by W J Badgley and H. Mark. The nature of elastomers, by H. L. Fisher Aspects of the structure and reactions of proteins, by J. T Edsall. Condensation polymerization and constitution of condensation polymers, by P J Flory Physical and chemical structure of plant materials, by T S. Carswell. Subject index.

Note: A collection of short monographs which were originally presented as lectures under the auspices of Western Reserve University Most of the authors emphasize recent developments but also include enough of older events to give a fair picture of the current state of knowledge pertaining to the specific topic of the lecture. Gaps in the knowledge also are indicated. The level of presentation assumes an advanced knowledge of chemical terminology and concepts, hence the volume is intended for chemical graduates rather than beginners in organic chemistry Long bibliographies are included.

CONANT JAMES BRYANT, AND ALBERT HAROLD BLATT

The chemistry of organic compounds a year's course in organic chemistry Fourth edition. New York The Macmillan Company 1952 655 p. illus. 24 cm. $5 90. 390

Contents (abridged) The alcohols. Alkyl halides and ethers. Saturated or paraffin hydrocarbons. Gasoline and rubber Aldehydes and ketones. Organic acids. Derivatives of ammonia. Polyhydric alcohols—fats and oils. Dibasic acids—condensation polymerization. Optical isomerism. The carbohydrates. Unsaturated alcohols, acids, and carbonyl compounds. The amino acids and proteins. Benzene and the alkylbenzenes. Aryl halides, sulfonic acids, and phenols. Aromatic nitro compounds, amines, diazonium salts, and azo dyes. Diamines, polyhydroxyl compounds, and aminophenols. Aromatic acids. Naphthalene anthracene, and phenanthrene. Alicyclic compounds. Natural products containing alicyclic rings. Heterocyclic compounds. Natural and synthetic drugs Index.

Note: (339*) A standard textbook for use in introductory college courses in organic chemistry It is shorter than some texts of the kind but the material has been selected and treated so that the student is offered an adequate basic account of the organic reactions and compounds. The authors have not attempted to describe large numbers of reactions and compounds.

CONANT JAMES BRYANT AND ALBERT HAROLD BLATT

Fundamentals of organic chemistry a brief course for students concerned with biology medicine agriculture, and industry New York The Macmillan Company 1950 413 p. illus. 22 cm. $4.25 391

Contents: The alcohols Alkyl halides and ethers Saturated or paraffin hydrocarbons Unsaturated hydrocarbons. Gasoline and rubber. Aldehydes and ketones. Organic acids Polyhydric alcohols—fats and oils. Industrial and laboratory syntheses. Derivatives of ammonia—amides and amines. Acids containing two or more functional groups. Stereoisomerism The carbohydrates The amino acids and proteins. Biochemical processes. Benzene and alkylbenzenes. Aryl halides, sulfonic acids, and phenols Aromatic nitro compounds, amines, diazonium salts, and azo dyes Aromatic alcohols, aldehydes, ketones, and acids. Polynuclear aromatic compounds. Alicyclic compounds and related natural products. Heterocyclic compounds. Natural and synthetic drugs. Index.

Note. The purpose of this introductory textbook is adequately indicated in the subtitle. The book is based to some extent upon the authors' well known *Chemistry of organic compounds*, but the material has been selected to suit the needs of nonspecialists in chemistry and the treatment of many subjects is more descriptive in style.

COPENHAVER, JOHN WILLIAM, AND MAURICE H. BIGELOW

Acetylene and carbon monoxide chemistry New York Reinhold Publishing Corporation 1949 357 p illus 24 cm. $11.00 392

Contents: Synthesis and reactions of acetylene at atmospheric pressure. Vinylation. Ethinylation. Reactions of products derived from the ethinylation reaction. Cyclopolyolefins. The chemistry of carbon monoxide-carbonylation and related processes. Synthesis and reactions of acetylene homologs. Explosive decompositions of acetylene—techniques and equipment for handling acetylene under pressure. General bibliography of German acetylene chemistry Index.

Note: Prior to and during World War II, extensive research in acetylene chemistry especially in the reactions of acetylene under pressure, were made by the I. G. Farbenindustrie in Germany The work was in charge of Dr Julius W Reppe. After the defeat of Germany the Allies made an attempt to induce Dr Reppe to write out a full account of his work. Although this effort was unsuccessful, the present book is based largely on the documents of Dr. Reppe and his associates. Information gathered by the Field Information Agency Technical (F.I.A.T.) and the British Intelligence Objective Sub-Committee (B.I.O.S.) also is included. The book is of interest to organic chemists generally but has special interest for chemists working in the field of polymers and for chemical engineers concerned with designing of plants in which potentially explosive reactions must be handled safely

DESHA LUCIUS JUNIUS

Organic chemistry the chemistry of the compounds of carbon. Second edition. New York McGraw Hill Book Company Inc., 1952 595 p. illus. 24 cm. (International chemical series, L. P Hammett, consulting editor) $6 50 393

Contents (abridged) The chemistry of molecules. Carbon chains, homology Unsaturation. Aromatic hydrocarbons. Organic hydroxides. Ethers Carbonyl compounds Carboxylic acids. Amines. Sulfur and organometallic compounds. Polyfunctional aliphatic compounds. Polyhydric alcohols and their derivatives. Stereoisomerism. Carbohydrates. Polybasic acids and their derivatives. Substituted acids. Amino acids and proteins. Polyfunctional aromatic compounds. Color and constitution. Heterocyclic compounds. Organic chemistry and life. Appendix The identification of organic compounds Index.

Note (946) An introductory presentation for college students who are not planning to major in organic chemistry General principles and the general characteristics of classes of compounds are emphasized. Theories and basic concepts are introduced gradually and in relation to discussions of the compounds which best illustrate them. The first edition appeared in 1936 This edition represents a very extensive revision in which little material has been carried over. The author is Professor of Chemistry in Washington and Lee University

DREISBACH, ROBERT RICKERT

Pressure-volume-temperature relationships of organic compounds. Third edition. Sandusky Ohio Handbook Publishers, Inc., 1952 303 p. 22 cm. $10.00 394

Contents (abridged) Table of symbols. Cox chart families and their infinite points. How to use the tables Tables of vapor pressure-temperature relationships. How to determine the Cox chart family to which a compound belongs. Compounds classified according to their Cox chart families.

Note A reference volume for the use of professional chemists. The heart of it is a series of tables from which the boiling points at various pressures for a wide range of organic compounds can be read directly The values given, although less accurate than those which can be determined in careful measurements with precision apparatus, are more accurate than can be determined in the average industrial or college laboratory Some of the values in the tables have been derived from the precise measurements made in recent years by the American Petroleum Institute project of the National Bureau of Standards but the greater part of them have been deter-

mined from large-scale Cox charts constructed by the author and his co-workers at the Dow Chemical Company The tables are supplemented by discussion and instructions on using them to determine number of values in addition to boiling points. The earlier editions of the book were privately printed by the Dow Chemical Company

ELDERFIELD, ROBERT COOLEY editor

Heterocyclic compounds. New York John Wiley & Sons, Inc., 1950–51–52 4 vol. illus. 24 cm. Vol. I, $15 00 Vol. II, $15 00, Vol. III $12.00 Vol. IV $17 00 395

Contents: Vol. Ethylene and trimethylene oxides, by S. Winstein and R. B. Henderson. Ethylenimine, by J. S. Fruton. Derivatives of azete, by S. A. Ballard and D. S. Melstrom. Furan, by R. C. Elderfield and T N Dodd, jr The chemistry of thiophene, by F F Blicke. The chemistry of pyrrole and its derivatives, by A. H. Corwin. Monocyclic pyrans, pyrones, thiopyrans, and thiopyrones, by J. Fried. The chemistry of the pyridines, by H. S. Mosher. Piperidines and partially hydrogenated pyridines, by H. S. Mosher. Index. Vol. II. Benzofuran and its derivatives, by R. C. Elderfield and V B. Meyer Isobenzofuran, phthalan, and phthalide, by R. C. Elderfield. Dibenzofuran (diphenylene oxide) by W E. Parham. Thianaphthene, by D K. Fukushima. Dibenzothiophene, by D. K. Fukushima. Coumarins, by S. Wawzonek. Isocoumarins, by S. Wawzonek. Chromones, flavones, and isoflavones, by S. Wawzonek. Chromenols, chromenes, and benzopyrylium salts the anthocyanins, by S. Wawzonek. Chromanones, flavanones, chromanols, and flavanols: catechin, brazilin, and hematoxylin, by S. Wawzonek. Chromans, by S. Wawzonek. Xanthones, xanthenes, xanthydrols, and xanthylium salts, by S Wawzonek. Fluorans, fluoresceins, and rhodamines, by S. Wawzonek. Thiochromans and related compounds, by D. S. Tarbell. Index. Vol. III. The chemistry of indoles, by P L. Julian and others. Isoindole, by R. C. Elderfield and T N Dodd, jr The chemistry of carbazole, by W Freudenberg. Pyrindine, quinindine, and related compounds, by R. C. Elderfield and E. T Losin. Bicyclic systems with nitrogen atom common to both rings, by H. R. Ing Index. Vol IV The chemistry of quinoline, by R. C. Elderfield. Isoquinoline, by W J Gensler The acridines, by A. Albert. Phenanthridine, by L. P Walls. Benzoquinolines, by L. P Walls. Index.

Note. A valuable addition to chemical literature. Its purpose is to make available detailed monographic treatments of heterocyclic compounds of current interest which have not already been treated fully in other books. Each of the chapters is written by specialist who has worked with the group of compounds which he discusses. The treatment is on professional level, for full attention is given to such aspects as nomenclature, structure, reaction, and derivatives. Literature citations are given as footnotes.

ENGLISH JAMES JR., AND HAROLD G CASSIDY

Principles of organic chemistry an introductory text in organic chemistry New York McGraw Hill Book Company Inc. 1949 512 p illus. 23 cm. (International chemical series Louis P Hammett, consulting editor) $6 00 396

Content (abridged) Hydrocarbons. Alcohols and phenols. Halogen compounds. Ethers. Carbonyl compounds—aldehydes and ketones. Carboxylic acids. Amines and diazonium compounds. Sulfur compounds. Carbonic acids. Substituted acids. Color and chemical constitution. Stereoisomerism. Carbohydrates—the sugars. Macromolecules—polysaccharides, proteins, and plastics Topics in biochemistry Review exercises. Index

Note. A relatively brief textbook in which much of the descriptive detail which is characteristic of texts in this field is lacking. The authors—faculty members of Yale University—have presented fundamental material such as essential to basic understanding of organic chemistry and have described selected number of typical reactions. The book is intended for the instruction of college students who will specialize in related fields such as medicine and engineering.

FERGUSON LLOYD N

Electron structures of organic molecules. New York Prentice-Hall Inc. 1952 335 p illus. 24 cm. $8.65 397

Contents: Introduction. Types of chemical bonds. The polar nature of covalent bonds. Covalent bond distances and bond angles. Intramolecular forces. Induction and electric dipole moments. Magnetic susceptibility Resonance and its applications to organic chemistry Absorption spectroscopy Aromatic substitution. Molecular and electron structures by physical methods. Author index. Subject index.

Note A survey of the current knowledge and hypotheses pertaining to electron distributions of organic molecules and to their significance in the properties of compounds, in reactions between compounds, and in physical characteristics such as are revealed by absorption spectroscopy Experimental methods by means of which the information was obtained are described also. The presentation is not so compact as to require the average reader to go to the source articles. However, the text is well documented with literature references. The book is suitable for upperclass college students who are majoring in organic chemistry and for graduate chemists who wish to be brought up to date on this important phase of organic chemistry

FIESER, LOUIS FREDERICK, AND MARY FIESER

Organic chemistry Second edition. Boston D C. Heath and Company 1950 1125 p. illus. 24 cm. $8 00 398

Contents The nature of organic compounds. Saturated hydrocarbons (alkanes) Ethylenic hydrocarbons (alkenes) Acetylenic hydrocarbons (alkines) Petroleum. Alcohols. Halogen compounds. Carboxylic acids. Aldehydes and ketones. Amines. Stereochemistry Ring formation. Rubber. Reaction mechanisms. Carbohydrates. Fats and waxes. Proteins. Microbiological processes. Role of carbohydrates in biological processes. Metabolism of fats. Metabolism of proteins and amino acids. Structure of benzene. Aromatic hydrocarbons. Aromatic substitutions. Nitro compounds. Sulfonic acids. Aromatic amines. Phenols. Aromatic halogen compounds. Aromatic carboxylic acids. Aromatic aldehydes and ketones. Quinones. Naphthalene. Polynuclear hydrocarbons. Heterocyclic compounds. Dyes. Synthetic fibers. Synthetic plastics and resins. Steroids. Isoprenoid compounds. Accessory dietary factors. Advances in chemotherapy Index. Appendix (tables)

Note (931) This book is both an introductory textbook of comprehensive scope and general survey of applications of organic chemistry in biological and medical sciences and in technology The "essay" chapters, such as the one on rubber are full enough to serve as introductory survey for graduate chemists who are not specialists in the subject of the chapter but need quick view of the fundamentals together with literature references. In the present revision two chapters have been added and many parts have been rewritten The amount of material included has been increased substantially more than the 24-page gain in length would indicate.

FLETT LAWRENCE H., AND WILLIAM HOWLETT GARDNER

Maleic anhydride derivatives reactions of the double bond. New York John Wiley & Sons, Inc., 1952 269 p. illus. 23 cm. $6.50 399

Contents: Hydrocarbons. Halogens and their compounds. Hydrogen. Metallic compounds. Compounds containing nitrogen. Compounds containing oxygen. Sulfur compounds. Energy and catalysts. Index.

Note: A reference book of reactions and laboratory procedures in which maleic anhydride or one of its simple, unsaturated derivatives is employed One hundred and sixteen reactions are described. For most of them the reaction is diagrammed, laboratory procedure is described, and there is literature reference. In addition, in many instances, uses of the end product are discussed. The book is of interest to organic chemists.

FUSON REYNOLD CLAYTON

Advanced organic chemistry New York John Wiley & Sons, Inc., 1950 669 p. illus. 23 cm. $8.50 400

Contents (abridged) Cleavage of carbon-carbon bonds. Carbon-carbon multiple bonds. Hydroxy compounds. Organometallic compounds in synthesis. Carbon monoxide in synthesis. Oxidation. Active methylene compounds. Nitro, nitroso, and oxime compounds. Amines and amine compounds. Azo and diazo compounds. Organic sulfur compounds. Polymerization. Author index. Subject index

Note. A textbook for students who are majoring in organic chemistry Its main theme is expressed in the first sentence: "The study of organic chemistry can be greatly facilitated if it is recognized

that the very large number of reactions of organic molecules actually involves relatively few fundamentally different transformations. The fundamental behavior patterns of organic compounds and groups and analogies and contrasts among them are constantly pointed out. The organic reactions with which the practicing organic chemist must be familiar are described compactly and clearly and in most instances are diagrammed. Bibliographical footnotes indicate the important related literature. Young chemists in industry as well as advanced students of chemistry will find the book useful.

HARTOUGH HOWARD D

Thiophene and its derivatives. With special chapters by *H. P Hochgesang and F F* Blicke. New York Interscience Publishers, Inc., 1952 533 p 24 cm. (The chemistry of heterocyclic compounds a series of monographs Arnold Weissberger consulting editor) $16.50 401

Contents: General discussion. Biological and pharmacological activity of thiophene and its derivatives, by F F Blicke. Synthesis and physical properties of thiophene and its homologs. Molecular structure and spectroscopy of thiophene and its derivatives, by F P Hochgesang. Factors affecting substitution reactions in the thiophene nucleus. Alkylation, polymerization, hydrogenation and miscellaneous reactions of thiophene. Halothiophenes and halоalkylthiophenes. The nitro- and aminothiophenes. Thiophene compounds containing nitrogen in the side chain. Hydroxythiophenes, thienylalkanols, alkoxythiophenes, and thienylalkyl ethers. Aldo and keto derivatives of thiophene. Carboxy derivatives of thiophene. Sulfur derivatives of thiophene. Metal and miscellaneous metalloid derivatives of thiophene. Synthesis and properties of di- and polythienyls and arylthiophenes. Selenophene, tellurophene, trimethylenethiophenes, tellurophene, and tetrahydroselenophene. Appendix. Index.

Note: A monographic treatment of an important group of organic compounds. The writing is very compact, consequently much more information is included than the number of pages might indicate. There are 108 tables scattered throughout the chapters. The treatment is on a professional level. The literature published down to October 1, 1949 has been covered and is cited in footnotes. The compounds covered have a wide range of developed and potential applications, and the book is an essential addition to active collections on organic chemistry

KOSOLAPOFF GENNADY MICHAEL

Organophosphorus compounds. New York John Wiley & Sons, Inc., 1950 376 p 23 cm. $8.50. 402

Contents: Introduction. Phosphines and related compounds. Halophosphines. Halophosphoranes, halides and phosphoryl halides. Quaternary phosphonium compounds. Tertiary phosphine oxides, sulfides, and selenides. Phosphinous, phosphonous, and phosphonic acids, their sulfur analogs and esters. Phosphites and thiophosphites. Phosphates, halophosphates, and thio analogs. Compounds with phosphorus to nitrogen bonds. Quasi-phosphonium compounds. Derivatives of anhydro acids. Appendix. Index.

Note: A comprehensive summary of the current knowledge of an important group of organic compounds. Particular attention is paid to the properties, methods of preparation, chief reactions, and uses, especially uses in the chemical laboratory. Literature references are given generously. The work is essentially a reference book.

LOWY ALEXANDER, AND BENJAMIN HARROW

An introduction to organic chemistry Seventh edition. Revised by Benjamin Harrow and Percy M. Apfelbaum. New York John Wiley & Sons Inc., 1951 480 p illus. 22 cm. $5.50 403

Contents (abridged): Saturated hydrocarbons. Unsaturated hydrocarbons. Alcohols. Ethers. Aldehydes and ketones. Carboxylic acids. Fats and oils, waxes, and some lipids. Amines. Nucleoproteins, pyrimidines, and purines. Cyclic compounds. Alicyclic compounds. Aromatic hydrocarbons. Aromatic amines. Aromatic acids and their derivatives. Heterocyclic compounds. Synthetic polymers. Plastics and rubbers. Dyes. Terpenes and related substances. Alkaloids. Plant and animal pigments. Enzymes, vitamins, hormones. Nomenclature of organic compounds. Appendix. Index.

Note: (337*) A long-established text (the first edition appeared in 1924) intended principally for college students who are preparing for careers in medicine, dentistry, pharmacy, or the biological sciences. A simpler treatment is given than in introductory texts written for students planning to major in organic chemistry. There is, however, no special emphasis on those aspects of organic chemistry which are of special interest in biochemistry. Changes in this edition are not extensive. However recent developments in such fields as the chemistry of aliphatic compounds have been incorporated. The book is about 25 pages longer.

NOLLER CARL ROBERT

Textbook of organic chemistry Philadelphia W B Saunders Company 1951 643 p illus. 24 cm. $5 75 404

Contents (abridged): Natural gas, petroleum and derived products. Esters of inorganic acids. Alkyl halides. Grignard reagents. Mechanism of organic reactions. Syntheses of alkanes and alkenes. Alkynes (acetylenes). Ethers. Waxes, fats, and oils. Aldehydes and ketones. Aliphatic nitrogen compounds. Aliphatic sulfur compounds. Proteins, amino acids, and peptides. Stereoisomerism. Benzene and its homologs. Coal products. Halogen derivatives of aromatic hydrocarbons. Aromatic nitro compounds. Aromatic sulfonic acids and their derivatives. *Aromatic amines. Diazonium salts. Phenols,* aminophenols, and quinones. Condensed nuclear hydrocarbons and their derivatives. Heterocyclic compounds. Alkaloids. Dyes and dyeing. Dienes, rubber and synthetic rubbers. Chlorinated and fluorinated aliphatic hydrocarbons. Unsaturated alcohols. Unsaturated acids. Polycarboxylic acids. Keto acids. Alicyclic compounds. Organic peroxides. Autoxidation and antioxidants. Organometallic compounds. Silicon compounds. Appendixes. Index.

Note: A textbook for introductory college courses offered to students who have completed a course in general chemistry at the college level. Understanding of reaction mechanisms is emphasized. However, the presentation is descriptive rather than mathematical. The author is Professor of Chemistry in Stanford University

ORGANIC REACTIONS Volume v Roger Adams, editor-in-chief New York John Wiley & Sons Inc. 1949 446 p illus. 24 cm. $7.50 405

Contents: The synthesis of acetylenes, by T. L. Jacobs. Cyanoethylation, by H. A. Bruson. The Diels-Alder reaction: quinones and other cyclenones, by L. W Butz and A. W Rytina. Preparation of aromatic fluorine compounds from diazonium fluoborates: the Schiemann reaction, by A. Roe. The Friedel and Crafts reaction with aliphatic dibasic acid anhydrides, by E. Berliner. The Gattermann-Koch reaction, by N N. Crounse. The Leuckart reaction, by M. L. Moore. Selenium dioxide oxidation, by N. Rabjohn. The Hoesch synthesis, by P. E. Spoerri and A. S. DuBois. The Darzens glycidic ester condensation, by M. S. Newman and B. J. Magerlein. Index.

—— Volume vi. Roger Adams, editor-in-chief New York John Wiley & Sons, Inc., 1951 517 p. illus 24 cm. $8 00 406

Contents: The Stobbe condensation, by W S. Johnson and G. H. Daub. The preparation of 3,4-dihydroisoquinolines and related compounds by the Bischler-Napieralski reaction, by W M. Whaley and T R. Govindachari. The Pictet-Spengler synthesis of tetrahydroisoquinolines and related compounds, by W M. Whaley and T R. Govindachari. The synthesis of isoquinolines by the Pomeranz-Fritsch reaction, by W J. Gensler. The Oppenauer oxidation, by C. Djerassi. The synthesis of phosphonic and phosphinic acids by G. M Kosolapoff. The halogen-metal interconversion reaction with organolithium compounds, by R. G Jones and H. Gilman. The preparation of thiazoles, by R. H. Wiley and others. The preparation of thiophenes and tetrahydrothiophenes, by D. E. Wolf and K. Folkers. Reduction by lithium aluminum hydride, by W G. Brown. Index.

Note: (345-6*) These additional volumes in this series contain the monographs listed in the above tables of contents. The series has as its purpose the publication of monographs on the useful reactions in organic chemistry. In contrast to *Organic syntheses,* the emphasis is on the reaction rather than on the product. Each of the monographs is a comprehensive survey of the reaction named in its title, covering not only its nature and basic principles, but also its uses and limitations, procedures, conditions, and yields. In many instances an extensive table of data on the properties of derivatives is included. Usually the bibliographies are extensive.

ORGANIC SYNTHESES an annual publication of satisfactory methods for the preparation of

organic chemicals. Cliff S. Hamilton, editor in-chief Volume 29 New York John Wiley & Sons Inc., 1949 119 p illus. 24 cm. $3 00 407

Contents: 1-acetylcyclohexene. Acrylic acid. m-aminobenzaldehyde dimethylacetal. 5-amino-2,3-dihydro-1,4-phthalazinedione. β-benzoylacrylic acid. α-bromoheptaldehyde. *tert.*-butylamine and *tert.*-butylamine hydrochloride. Catalyst, Raney nickel. 4-chlorobutyl benzoate. 2-chloromethylthiophene. γ-chloropropyl acetate. 2,6-dichlorophenol. α,α-diphenylacetone. Ethyl β-anilinocrotonate. Ethyl 2-pyridylacetate. 1-ethynylcyclohexanol. Homophthalic acid and anhydride. β-(2-hydroxyethylmercapto) propionitrile. Indazole. Isoprene cyclic sulfone. Methacrylamide. m-methoxybenzaldehyde. 1-methylaminoanthraquinone. 1-methylamino-4-bromoanthraquinone. 2-methyl-4-hydroxyquinoline. m-nitrobenzaldehyde dimethylacetal. p-nitrobenzonitrile. 5-nitro-2,3-dihydro-1,4-phthalazinedione. Oleyl alcohol. α-phenylcinnamonitrile. Protocatechuic acid. 2-thiophenealdehyde. 1,2,5-trihydroxypentane. Trimethylene oxide. Subject index.

—— Arthur C. Cope, editor in-chief Volume 30. New York John Wiley & Sons, Inc., 1950 115 p illus. 24 cm. $3 00 408

Contents. 9-acetylanthracene. 3-aminopyridine. p-aminotetraphenylmethane. DL-aspartic acid. Benzoylcholine iodide and chloride. n-butylacetylene. β-carbethoxy- γ,γ-diphenylvinylacetic acid. Chloroacetonitrile. *trans*-2-chlorocyclopentanol. 4,4′-dichlorodibutyl ether. Diethyl *cis*-Δ4-tetrahydrophthalate and diethyl *cis*-hexahydrophthalate. 1,4-diiodobutane. Ethanedithiol. Ethylenimine. 5-ethyl-2-methylpyridine. Ethyl phenylcyanoacetate. Fumaronitrile. Glutaric acid. Hexahydro-1,3,5-tripropionyl-s-triazine. 2-iodothiophene. 2-mercaptobenzimidazole. Methanesulfonyl chloride. N-methyl-2,3-dimethoxybenzylamine. 1-methyl-3-ethyloxindole. Methyl β-thiodipropionate. 1-naphthaldehyde. o-nitroacetophenone. Phenylacetylene. *trans*-1-phenyl-1,3-butadiene. α-phenyl-α-carbethoxyglutaronitrile. α-phenylglutaric anhydride. Phenylmaleic acid. 2,3-pyrazinedicarboxylic acid. 1,2,3,4-tetrahydrocarbazole. *cis*-Δ4-tetrahydrophthalic anhydride. Tetraphenylarsonium chloride hydrochloride. o-tolualdehyde. Vanillic acid. Vinyl laurate and other vinyl esters. Index.

—— R. S Schreiber, editor in-chief Volume 31 New York John Wiley & Sons, Inc., 1951 122 p. illus 24 cm. $3.50 409

Contents. α-acetyl-δ-chloro-γ-valerolactone. δ-acetyl-n-valeric acid. p-aminobenzaldehyde. Arylureas. Benzofurazan oxide. N-bromoacetamide. o-chlorophenylcyanamide. o-chlorophenylthiourea. Coumalic acid. Cyclohexylidenecyanoacetic acid and 1-cyclohexeneacetonitrile. 4,4′-dibromobiphenyl. 1,6-diiodohexane. Diisopropyl methylphosphonate. 2,3-dimethoxycinnamic acid. β-dimethylaminoethyl chloride hydrochloride. β,β-dimethylglutaric acid. 3,5-dimethylpyrazole. 2,6-dinitroaniline. N,N′-diphenylbenzamidine. α,β-diphenylcinnamonitrile. Ethyl α-acetyl-β-(2,3-dimethoxyphenyl)-propionate. Ethyl pyruvate. Hexamethylene diisocyanate. Iodocyclohexane. Lauron. O-methylcaprolactim. Methyl cyclopropyl ketone. 9-nitroanthracene. 1-(p-nitrophenyl)-1,3-butadiene. Pentaerythrityl tetrabromide. phenylallylsuccinic acid. Phenyldichlorophosphine. Quinacetophenone monomethyl ether. Syringic aldehyde. dl-4,4′,6,6′-tetrachlorodiphenic acid. 2,2,6,6-tetramethylolcyclohexanol. Tetraphenylethylene. Thiolacetic acid. 2-thiophenecarboxaldehyde. Triethyl phosphite. Index to volumes 30 and 31.

—— Richard T Arnold editor-in-chief Volume 32 New York John Wiley & Sons, Inc., 1952 119 p illus 24 cm. $3.50 410

Contents: Abietic acid. Acrolein acetal. Alloxan monohydrate. 2-aminobenzophenone. ε-aminocaproic acid. 1,1′-azo-bis-1-cyclohexanenitrile. β-bromoethylphthalimide. *tert*-butyl hypochlorite. 1-chloro-2,6-dinitrobenzene. p-chlorophenyl salicylate. β-chlorovinyl isoamyl ketone. Cyanogen iodide. 3-cyano-6-methyl-2(1)-pyridone. 1,2-cyclohexanedione dioxime. Cyclohexene sulfide. Cyclopentadiene and 3-chlorocyclopentene. 2,4-diamino-6-hydroxypyrimidine. 2,2-dichloroethanol. 1,1′-dicyano-1,1′-bicyclohexyl. 1,2-di-1-(1-cyano)-cyclohexylhydrazine. Diethyl Δ2-cyclopentenylmalonate. Diethyl ethylidenemalonate. Dimethyl acetylenedicarboxylate. 4,6-dimethylcoumalin. 1,5-dimethyl-2-pyrrolidone. *asym*-dimethylurea. α,α′-diphenylsuccinonitrile. 2-ethylhexanonitrile. Ethyl orthocarbonate. 1,1′-ethynylene-bis-cyclohexanol. Flavone. Isodehydracetic acid and ethyl isodehydracetate. β-ketoisooctaldehyde dimethyl acetal. Methyl p-acetylbenzoate. Methylglyoxal-ω-phenylhydrazone. Methyl γ-methyl-γ-nitrovalerate. Naphthalene-1,5-disulfonyl chloride. Neophyl chloride. Phenylacetamide. Sodium nitromalonaldehyde monohydrate. β-tetralone. Thiobenzoic acid. 10-undecynoic acid. Index to volumes 30-32.

Note: An internationally-known series which has been published since 1921. For each substance practical laboratory methods are given, the apparatus is described and, if necessary illustrated; notes are given on special points; and other published methods for synthesis of the same compound are mentioned and references are made to their original publication. Before acceptance for publication, each synthesis is carried out in at least two laboratories with which the submitter is not associated.

PERCIVAL, EDMUND GEORGE VINCENT

Structural carbohydrate chemistry New York Prentice-Hall Inc. 1950 246 p illus. 22 cm. $8 00 411

Contents. The general properties, configurations and interrelationships of the monosaccharides. The sugars as ring forms. Characteristic reactions of sugars involving hydroxyl groups. Sugar anhydrides and amino sugars. Oligosaccharides. Polysaccharides. Further studies on cellulose, starch, glycogen and xylan. The uronic acids and the polyuronides. Natural glycosides. Other important natural products. Some less familiar polysaccharides. Author index. Subject index.

Note. A compact presentation of the chemistry of the sugars and the related compounds. As the title indicates, the emphasis is on structure or configuration. However, information is included also on methods of preparation and on reactions. The book is liberally illustrated with structural diagrams. Pertinent literature is cited in footnotes.

REMICK ARTHUR EDWARD

Electronic interpretations of organic chemistry Second edition. New York John Wiley & Sons, Inc., 1949 600 p illus. 24 cm. $6.50. 412

Contents. Pre-electronic theories of chemical affinity. Early applications of the electron theory to problems of organic reactivity. Applications of the Lewis theory to problems of molecular structure. The generalized concept of oxidation-reduction. Outline of the electronic theory of the English school. Some contributions from the field of chemical physics. Some contributions from the field of kinetics. The role of the solvent. Some contributions from the field of stereochemistry. Electron-sharing reactions. Electron pairing reactions. Some contributions from the field of electrochemistry. Appendices: List of basic principles. Table of symbols. Index.

Note: (970) A valuable summary of fundamental chemical knowledge which can be applied toward understanding the reactions and other phenomena of organic chemistry. The author has gathered together the developments in theoretical and physical chemistry which he believes are or can be useful to workers in preparative organic chemistry. These theories and principles are explained and evaluated, and the experimental evidence which supports them is described. Footnote references are given to original publications. Although used chiefly as text in courses offered to advanced students in organic chemistry, the work is potentially useful to graduate chemists as well. It has been extensively revised in this edition.

SHIRLEY DAVID ALLEN

Preparation of organic intermediates. New York John Wiley & Sons, Inc. 1951. 328 p. illus. 23 cm. $6.50 413

Note: A reference book in which specific directions are given for the preparation of more than 500 compounds useful in the synthesis of other compounds. The write-up of each procedure resembles in organization and content the write-ups in *Organic syntheses*, and in fact the book is intended to complement *Organic syntheses*. According to the author the following criteria have been followed in selecting compounds for inclusion: (1) The compound either is not available commercially or if available is relatively expensive; (2) directions for preparation of the compound had not been included in *Organic syntheses* through Volume 28; and (3) the compound is one whose structure is simple and contains reactive functional groups which make it useful as an intermediate, or its preparation involves a generally useful type of organic reaction and the directions may be applied to the preparation of related compounds.

WATERS, WILLIAM ALEXANDER

Physical aspects of organic chemistry Fourth edition (completely rewritten) New York D Van Nostrand Company Inc., 1950. 537 p illus. 22 cm. $8.00. 414

Contents: Chemical affinity Valency bonds. The study of molecular structure. Electrical dipoles. Chemical reactivity Unsaturation. Free radicals and their reactions. Radical-catalyzed reactions. Ionization and ionic reactions. Acidity General polarity Substitution reactions of organic halogen compounds. Ester hydrolysis and esterification. Isostropic change. Molecular rearrangement. Reactions of conjugated systems. Aromatic compounds. Index of authors. Subject index.

Note. The present edition of this well known book on the mechanisms of organic reactions, published eight years after the third edition, contains numerous revisions in order to incorporate such advances as the concept of resonance. However the book has not been completely rewritten in the new terminology In the words of the author "Since the essential purpose is the interpretation of experimental facts we shall make use of whichever conceptual model appears to be the most helpful in attaining clarity in the discussion of each group of experimental data. The book is of interest to advanced students of organic chemistry and to teachers of the subject.

WERTHEIM, EDGAR

Textbook of organic chemistry Third edition. Philadelphia The Blakiston Company 1951 958 p. illus. (part col'd) 23 cm. $5.00 415

Contents (abridged) Part I, Aliphatic compounds: The methane series of hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Alcohols. Ethers. Aldehydes and ketones. Monocarboxylic acids, salts, thio acids. Acid derivatives. Substituted acids. Dicarboxylic acids Urea, thiourea, guanidine, uric acid. Amines. Compounds of phosphorus, arsenic, sulfur ilicon, and metals. Isomerism optical activity Carbohydrates. Part II, Aromatic compounds: Aromatic hydrocarbons. Sulfonic acids. Nitro compounds. Aromatic amines. Diazo compounds and derivatives. Aromatic alcohols, phenols. Aromatic acids. Aromatic aldehydes, ketones, and quinones. Grignard and Friedel-Crafts reactions. Naphthalene, anthracene, and related compounds. Alicyclic compounds. Terpenes. Heterocyclic compounds. Alkaloids. Dyes. Proteins. Glycosides, enzymes, hormones, vitamins, antibiotics. Identification of organic compounds. Some electronic reaction mechanisms. Appendix. Index.

Note. (978) An established introductory text, used in full length introductory courses. Although the standard range of subject matter is covered, the exposition is less catalogue of compounds and properties than are some textbooks. In general the author's method has been to put physical properties such as boiling points in tables rather than in the discussions of groups of compounds. A very generous use of structural diagrams in representing reactions and relations between compounds further simplifies the presentation. The second edition appeared in 1945. Fairly substantial changes were made in preparing the third edition. The author is Professor of Organic Chemistry in the University of Arkansas.

WHELAND GEORGE WILLARD

Advanced organic chemistry Second edition. New York John Wiley & Sons, Inc., 1949 799 p. illus. 24 cm. $8.50 416

Contents. Some fundamental concepts. Addition compounds. Modern concepts of acids and bases. Structural isomerism Tautomerism. The configurations of carbon compounds. The stereochemistry of carbon. The configuration and the stereochemistry of elements other than carbon. Strain theory and steric hindrance. The theory of resonance. Electrostatic effects in organic chemistry Molecular rearrangements: the 1 2 shifts—further types. Tautomerism. Free radicals. Author index Subject index.

Note Advanced topics not covered in first-year courses in organic chemistry are discussed in this textbook for second-year undergraduate courses. The exposition is built upon modern structural theory The discussions of such phenomena as electrostatic effects, free radicals, strain theory and steric hindrance can be read separately with profit by persons who have the requisite knowledge of elementary organic chemistry The author has taken pains to state full structural formulas and to give clear definitions of advanced technical terms. There are numerous references to the related literature. The first edition of the book was not regularly published but was produced in mimeographed format for use at the University of Chicago.

WHITMORE FRANK CLIFFORD

Organic chemistry With assistance of a committee of colleagues. Second edition. New York D Van Nostrand Company Inc. 1951 1005 p. illus. 24 cm. $12.00 417

Contents (abridged) Aliphatic compounds. Alicyclic compounds. Aromatic compounds. Heterocyclic compounds. Organophosphorus and organometallic compounds. Index.

Note: (960) A standard American college textbook of the semireference type. Practically all of the important organic reactions are described briefly and all of the compounds mentioned in the text are brought out in the 139 page index. Footnotes and literature references throughout the work serve to guide the reader to fuller treatment of the specific reactions that are of interest. The first edition, published in 1937 was reprinted ten times. The present edition, prepared from manuscript left incomplete upon the author's death in 1947 contains number of useful revisions, among which are completely new index, fuller literature references, and numerous revisions in the treatment of the aliphatic compounds.

POLYMERS AND POLYMERIZATION

BOUNDY, RAY H., AND OTHERS

Styrene its polymers copolymers and derivatives. Edited by Ray H. Boundy Raymond F Boyer and Sylvia M. Stoesser editorial assistant. New York Reinhold Publishing Corporation 1952 1304 p. illus 23 cm. (American Chemical Society monograph series No 115) $20.00 418

Contents Introduction, by A. J. Warner. History by R. H. Boundy and S. M. Stoesser. Manufacture of styrene monomer by J. E. Mitchell. Physical properties of styrene monomer, by D. R. Stull. The chemistry of styrene monomer, by G. H. Coleman. Analysis of styrene monomer by E. N Luce. Handling styrene monomer by L. E. Lloyd. The polymerization of styrene, by L. C. Rubens and R. F Boyer. Summary of uses for styrene monomer by J. W Everson. Molecular weight and solubility of polystyrene, by R. F Boyer and R. Simha. The general physical properties of polystyrene, by J. L. Williams and K. J. Clearman. Optical and electrical properties of polystyrene, by L. A. Matheson and J. L. Saunderson. Rheological properties of polystyrene, by R. S. Spencer. The degradation of polystyrene, by H. H. G. Jellinek. Chemical alteration of styrene polymers, by G. D. Jones. α-methylstyrene, by J. L. Amos and others. Ethylvinylbenzene and divinylbenzene mixture and its copolymers, by J. L. Amos and others. Halostyrenes and other vinyl aromatic compounds, by J. L. Amos and J. W Everson. Styrene resins, by G. A. Grove. A survey of styrene and polystyrene in Germany, by W C. Goggin. Copolymerization, by R. Simha and L. A. Wall. A survey of patent literature on styrene copolymers, by W J LeFevre. Fabrication of polystyrene, by W C. Goggin. Author index. Subject index.

Note A comprehensive work in which the very extensive literature of the subject together with unpublished information in possession of the editors and authors is expertly digested and organized. The literature including patents appears to have been fully covered through 1950 and there are some references to 1951 publications. A full scale presentation of the scientific knowledge can be expected in this series; this book contains also much explicit information on the fabrication of polystyrene and other plastic materials based on the styrene. It is fundamental book in both the literature of polymerization and that of the plastic materials.

D ALELIO GAETANO FRANCIS

Fundamental principles of polymerization rubbers, plastics, and fibers. New York John Wiley & Sons, Inc., 1952 517 p. illus. 24 cm. $10 00 419

Contents: Polymers—rubbers, plastics, and fibers Polymerization reactions and functionality The existence of macromolecules. The non-homogeneity of polymers and their properties. Polyreactions. Polymerization processes. Molecular weight determinations. Kinetics of polymerizations. Reaction loci in polymerization systems Copolymer compositions and stability of polymers. Author index. Subject index.

Note. A very wide range of information is presented in this book and so many papers are cited that the author index runs to ten columns. Nevertheless, the author has been very selective in choosing the material and has not attempted comprehensive monograph. The book presents—as the title indicates—the basic knowledge of polymerization and in addition covers historically the development of important theories, etc. It is addressed to such readers as graduate chemists and chemical engineers. The author is Manager of Research for the Koppers Company Inc.

MARK, HERMANN FRANZ, AND A. V TOBOLSKY

Physical chemistry of high polymeric systems. Second completely revised and augmented edition New York Interscience Publishers Inc. New York 1950 506 p illus. 24 cm. (High polymers. A series of monographs on the chemistry, physics and technology of high polymeric substances. Editorial board H. Mark C. S Marvel, H. W Melville, G S Whitby Vol. II) $6.50 420

Contents Geometry of molecules as revealed by diffraction methods. Behavior of molecules in electric and magnetic fields. Molecular spectra. Primary and secondary valences. Crystal structure and crystal forces. Crystal structure and crystal symmetry Liquids, mesophases and the amorphous crystalline character of polymers. Thermodynamics of solutions. Kinematics of liquids and solutions—viscosity—diffusion—and ultracentrifugation. Mechanical behavior of high polymers. Step reaction polymerization. Chain reaction polymerization. Degradation of high polymers. Author index. Subject index.

Note (937a) A revision of a well known work on the physical chemistry of macromolecules. As in the first edition, the book is concerned with the molecular structure and properties of high polymers as a group, rather than of individual compounds. Also, emphasis is placed on the results obtained from experimental methods rather than on the methods themselves. This edition has been revised and enlarged to include developments since 1940 particularly those relating to the thermodynamic and kinematic behavior of polymer solutions and the kinetics of polymer formation. New chapters have also been added on molecular spectra and step reaction polymerization.

PHYSICAL CHEMISTRY

ADVANCES IN CATALYSIS AND RELATED SUBJECTS Volume IV Edited by W G Frankenburg E K. Rideal and V I. Komarewsky Editorial board P H. Emmett and H. S Taylor New York Academic Press Inc., 1952 457 p illus 24 cm. $9.50 421

Contents Chemical concepts of catalytic cracking, by R. C. Hansford Decomposition of hydrogen peroxide by catalysts in homogeneous aqueous solution, by J. H. Baxendale Structure and sintering properties of cracking catalysts and related materials, by H. E. Ries, Jr Acid base catalysis and molecular structure, by R. P Bell. Theory of physical adsorption, by T L. Hill. The role of surface heterogeneity in adsorption, by G D Halsey Twenty-five years of synthesis of gasoline by catalytic conversion of carbon monoxide and hydrogen, by H. Pichler. The free radical mechanism in the reactions of hydrogen peroxide, by J. Weiss. The specific reactions of iron in some hemoproteins, by P George. Author index. Subject index.

Note: (167) A volume of original monographic surveys in which the emphasis is on recent developments The level of treatment is the same as in previous volumes in the series In other words, the writing is addressed primarily to graduate chemists interested in keeping abreast of developments in the field of catalysis.

AMIS, EDWARD STEPHEN

Kinetics of chemical change in solution. New York The Macmillan Company 1949 332 p illus. 22 cm. $5 25 422

Contents Introduction. The Debye-Hückel theory Liquid dielectrics and polar moments. The Brønsted-Christiansen-Scatchard equation. The temperature coefficient of reaction rates; energy of activation The temperature coefficient of reaction rates; the Arrhenius frequency factor Semiempirical calculation of activation energies; the theory of absolute reaction rates. Reactions between ions and dipolar molecules and between dipolar molecules and dipolar molecules. Reaction rates and the solvent Photochemistry; chain reactions. Homogeneous catalysis. Adsorption, heterogeneous catalysis, and heterogeneous reactions. Index.

Note: A concise yet thorough presentation of the fundamental principles of rate processes in solution, and such related topics as the activity coefficients of ions, polar moments in solution, and dielectric constants of liquids. The book is written for advanced chemistry students, and the mathematical calculations involved in the development of kinetic and rate equations require a sound knowledge of differential and integral calculus. Emphasis is placed on the theoretical aspects of the subject, but practical applications of solution processes are briefly discussed.

ANNUAL REVIEW OF PHYSICAL CHEMISTRY Volume 3 G K. Rollefson editor R. E Powell, associate editor Stanford Calif Annual Reviews Inc., 1952 416 p 23 cm. $6 00 423

Contents. Quantum theory theory of molecular structure and valence, by C. A. Coulson. Radioactivity and nuclear theory by M. G. Mayer Isotopes, by J Bigeleisen. Radiation chemistry by A. O. Allen. Polymeric electrolytes, by P Doty and G. Ehrlich. Ion exchange, by W C. Bauman and others. Thermochemistry and the thermodynamic properties of substances, by R. F Newton. Bond energies and bond distances, by G. Glockler. Heterogeneous equilibria and phase diagrams, by C. J Christensen and E. Rosner. Photochemistry by G K. Rollefson. Photosynthesis, by M. Calvin and others. Spectroscopy by N S. Bayliss. Polarography and electrode processes, by C. Tanford and S. Wawzonek. Solutions of nonelectrolytes, by G. Scatchard. Solutions of electrolytes, by T F Young and A. C. Jones. Reaction kinetics, by R. E. Powell. Theory of ionic crystals, semiconductors, and dielectrics, by F E. Williams. Experimental crystallography by W H. Zachariasen. Experimental molecular structure, by L. O. Brockway Indexes.

Note Papers authored and titled as above are contained in the third volume of a series which serves both as a summary of recent developments and a guide to the recent literature. The papers are concisely written and are keyed to bibliographies which run in some instances to several hundred references. A detailed subject index covers all of the papers and an author index lists the names of authors of the cited literature.

COHEN KARL

The theory of isotope separation as applied to the large-scale production of U^{235} Edited by G M Murphy New York McGraw Hill Book Company, Inc. 1951 165 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III—Vol. 1B) $2 50 424

Contents. Ideal cascades. Square cascades. Equilibrium time of square cascade. Determination of cascade constants. The central problem Centrifuges Other separation methods. Appendixes: Roots of a transcendental equation. Equilibrium time of square cascades for $N-1$ The holdup function. Rayleigh distillation. Properties of concurrent two phase elements Index.

Note: This volume is based on reports of the Substitute Alloy Materials Laboratories (SAM) which were operated by Columbia University from 1940 to 1945 as part of the development program on the atomic bomb The treatment is theoretical and much of it is expressed in mathematical equations. The discussions of the various methods of isotope separation, such as centrifuging, electrolysis, chemical exchange, thermal diffusion, and distillation, are concerned with general principles rather than technical details. List of declassified reports are included in the chapters.

HARKINS WILLIAM DRAPER

The physical chemistry of surface films. With a foreword by Peter Debye. New York Reinhold Publishing Corporation 1952 413 p illus 24 cm. $10 00 425

Contents. The nature and energetics of surfaces. Films on liquids. Films on solids. Properties of soap solutions. Mechanism of emulsion polymerization. The role of the electric double layer in the behavior of lyophobic colloids, by E. J. W Verwey Index.

Note Even though a considerable part of the contents of this work was published previously the book represents a major addition to chemical literature. The author made many original contributions to the knowledge of surface films and emulsion technology and all of his work is covered in it. Chapters one, two, and three have been reprinted with modifications from various volumes of Dr Jerome Alexander' Colloid chemistry. Chapters four and five are original but contain many quotations from articles by Dr Harkins that were published elsewhere. Chapter six, by Dr Verwey is another reprint with minor changes, from Alexander's Colloid chemistry. Although the basis of each chapter except the sixth was original research carried out by Dr Harkins and his associates, the

pertinent work of others is also described, and each of the chapters is accompanied by a substantial list of references. The bibliography of Harkins' own publications is arranged chronologically from 1907 to 1950.

HARNED HERBERT SPENCER, AND BENTON B OWEN

Physical chemistry of electrolytic solutions. Second edition revised and enlarged. New York Reinhold Publishing Corporation 1950 645 p. illus. 23 cm. (American Chemical Society Monograph series) $14.00. 426

Contents (abridged) General thermodynamic introduction. Theory of thermodynamic properties of aqueous solutions. The theory of irreversible processes in electrolytic solutions. Numerical computations of physical constants, characteristic slopes, and mathematical functions. Coulomb forces and ion association; weak electrolytes; frequency and field effects. The calculation of activity and osmotic coefficients from freezing points, boiling points, and vapor pressures. Hydrochloric acid. Polyvalent electrolytes. Mixtures of strong electrolytes. The ionization and thermodynamic properties of weak electrolytes. Appendices. Author index. Subject index.

Notes (1049) An authoritative treatise in which are combined full discussions of theory experimental methods, and the behavior and properties of electrolytic solutions. In the present edition there appear to be no changes other than correction of misprints in the body of the work or in the first appendix. However new knowledge gained since 1941 is covered in the second appendix, which is arranged so that appropriate parts can be related to the material on the same topic in the main part of the book. Also references have been made from superseded tables in the main part to their successors in the appendix.

HILDEBRAND JOEL HENRY AND ROBERT L SCOTT

The solubility of nonelectrolytes. Third edition. New York Reinhold Publishing Corporation, 1950 488 p. illus. 23 cm. (American Chemical Society monograph series William A. Hamor editor) $12.50. 427

Contents (abridged) The ideal solution. Nonideal solutions—general. Intermolecular forces. The liquid state. The entropy of athermal mixing. The heat of mixing. Polarity Hydrogen bonding. Specific interactions "solvation" and "association" Vapor pressures of binary liquid solutions. Solubility of gases in liquids. Solubility of liquids in liquids. Solubility of solids in liquids. Solid solutions. Metallic solutions. High polymer solutions. Surface phenomena. Evaluation of solubility parameters. Appendixes: Selected values of solubility parameters. Papers by the authors and co-workers. Solutions of nonelectrolytes—1949. Author index. Subject index. Formula index.

Notes (1050) A comprehensive presentation of the development and present state of knowledge pertaining to the solubility of nonelectrolytes. In a sense it is a companion work to Harned and Owen's *The physical chemistry of electrolytic solutions* (see author index) published in the same series. Following the general pattern of the series the literature of the subject has been surveyed and is fully cited. The treatment is on a graduate and professional level. Compared to the previous edition there are six new chapters including those on solid solutions and high polymer solutions, and there has been much reworking of the chapters carried over.

LAIDLER, KEITH JAMES

Chemical kinetics. New York McGraw Hill Book Company Inc., 1950 408 p illus. 23 cm. $6.50 428

Contents: The measurement of reaction rates. Experimental methods. The mechanisms of elementary processes. Elementary gas-phase reactions. Reactions in solution. Reactions on surfaces and in the solid state. Complex reactions. Some complex inorganic reactions. Some complex organic reactions. Catalysis. Oxidation. Polymerization. Potential-energy surfaces. Bibliography. Name index. Subject index.

Notes An introduction to the present knowledge of the rates of chemical reactions. It has the advantage over older books of containing recently published knowledge. In fact, references are made to literature published as recently as 1950. It is designed for use in college courses, particularly advanced courses offered to students who are majoring in chemistry. It should find some use also as refresher or guide for graduate chemists who desire a compact summary of the current knowledge. The book contains not only bibliography but numerous footnote references to the literature.

MACDOUGALL FRANK HENRY

Physical chemistry Third edition. New York The Macmillan Company 1952 750 p. illus. 22 cm. $6.00 429

Contents (abridged) Atomic theory Energy and the first law of thermodynamics. The gaseous state. The liquid state. The solid state. The structure of atoms. Physical properties and molecular constitution. The second law of thermodynamics. Solutions. Thermochemistry Heterogeneous equilibrium and applications of the phase rule. Chemical kinetics. Electrical conductance. Equilibria involving ions. Electromotive force. Electrolysis, polarization and overvoltage. Photochemistry The colloidal state. Indexes.

Note A standard textbook widely used in introductory college courses in physical chemistry The treatment is comparatively rigorous, and the book is designed for use by students who are preparing for careers in chemistry The previous edition appeared in 1943. In this edition the greater part of the text is unchanged, but two of the chapters have been extensively rewritten and minor changes have been made in some other parts.

MARYOTT, ARTHUR A., AND EDGAR R. SMITH

Table of dielectric constants of pure liquids. Washington, D C. Government Printing Office, 1951 44 p 26 cm (United States. National Bureau of Standards. Circular 514) Paper $0.30 430

Contents Introduction. Description of table. Table of dielectric constants Standard liquids. Inorganic liquids. Organic liquids. Bibliography

Note This circular contains the "static" dielectric constants of more than 800 substances in the liquid state, the tables being divided into three sections: standard liquids, inorganic liquids, and organic liquids. Reference sources are given for the liquids in the inorganic and organic groups, and probable accuracy of the data is indicated. The tables are reproduced from typewritten copy The work is part of a program for critical compilation of the data of physics and chemistry sponsored by the National Bureau of Standards in cooperation with the Committee on Tables of Constants and Numerical Data of the National Research Council and the Commission on Tables of Constants of the International Union of Chemistry

MOORE, WALTER JOHN

Physical chemistry New York Prentice-Hall, Inc. 1950 592 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M. Latimer editor) $8 05 431

Contents The description of physicochemical systems. The first law of thermodynamics. The second law of thermodynamics. Thermodynamics and chemical equilibrium. Changes of state. Solutions and phase equilibria. The kinetic theory. The structure of the atom Nuclear chemistry and physics. Particles and waves. The structure of molecules. Chemical statistics. Crystals. Liquids. Electrochemistry Surface chemistry Chemical kinetics. Index.

Note A text for introductory courses offered to college students who have completed basic courses in both physics and chemistry The treatment is rigorous, but the author has taken pains to make things clear. Parts of the book, for instance the chapter on surface chemistry are written so that they can be comprehended without the aid of an instructor. The lists of references intended as guides for further reading include both books and articles. The author is Associate Professor of Chemistry at the Catholic University of America.

PAUL MARTIN AMBROSE

Principles of chemical thermodynamics. New York McGraw-Hill Book Company Inc., 1951 740 p. 24 cm. (International chemical series, Louis P Hammett, consulting editor) $8.00 432

Contents. Temperature. The first law of thermodynamics. Thermal behavior of simple systems. Thermochemistry. The second law of thermodynamics. Thermodynamic behavior of simple systems. Thermodynamic behavior of solutions and heterogeneous mixtures. Chemical equilibrium. Thermodynamics of galvanic cells. Statistical molecular theory of thermodynamics. Appendix. Answers to problems. Index.

Note. This substantial textbook is designed for the use of advanced undergraduate and graduate college students who are specializing in chemistry and have completed an introductory course in physical chemistry. Due attention is given to the theoretical bases of chemical thermodynamics, and the derivations of commonly used equations are always shown. The ninety-page discussion of the statistical molecular theory of thermodynamics is a special feature. Mathematical techniques more advanced than those of elementary calculus are explained in the text when they are introduced and in a special appendix.

PRUTTON, CARL FREDERIC, AND SAMUEL H. MARON

Fundamental principles of physical chemistry. Revised edition. New York: The Macmillan Company, 1951. 803 p. illus. 22 cm. $6.00 433

Contents (abridged). Elementary principles of thermodynamics and their application to gases. Liquids. The solid state. Solutions. Colligative properties of solutions of nonelectrolytes. Solutions of electrolytes. Surface phenomena and colloids. Thermochemistry. Entropy and the third law of thermodynamics. The free energy. Homogeneous chemical equilibrium. Heterogeneous equilibrium. Electrolytic transference and conductance. Ionic equilibria. The electromotive force of cells. Electrolysis and polarization. Kinetics of homogeneous reactions. Kinetics of heterogeneous gas reactions. Physical properties and the structure of molecules. Photochemistry. Index.

Note. (1014b) A somewhat more advanced presentation is given than is customary in introductory texts in the subject. Thermodynamic principles are introduced in the second chapter and are used throughout the book. Although designed for a full-year course offered to students majoring in chemistry and chemical engineering, the authors suggest its use also for such students as physicists and biologists who will taken only an introductory course. Completion of college courses in physics, basic chemistry and calculus are prerequisite. In the present edition the chapter on photochemistry is a new addition and there is a fair number of other changes. The first-named author is an officer of the Mathieson Chemical Corporation and the second a member of the faculty of Case Institute of Technology.

QUILL, LAURENCE LARKIN, editor

The chemistry and metallurgy of miscellaneous materials: thermodynamics. New York: McGraw-Hill Book Company, Inc., 1950. 329 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Volume 19B) $4.50 434

Contents. Paper 1. Investigations in the liquid-solid equilibria of the two-component systems composed of the bromides and iodides of strontium and barium, by E. D. Eastman and others. Temperature-composition diagrams of metal—metal halide systems, by E. D. Eastman and others. The thermodynamic and physical properties of the elements, by L. Brewer. Thermodynamic and physical properties of nitrides, carbides, sulfides, silicides, and phosphides, by L. Brewer and others. The thermodynamic properties of common gases, by L. Brewer. The thermodynamic properties of the halides, by L. Brewer and others. The fusion and vaporization data of the halides, by L. Brewer. The thermodynamic properties of molybdenum and tungsten halides and the use of these metals as refractories, by L. Brewer and others. The heats of formation of CeS, Ce_3S_4, and Ce_2S_3 at 25° C, by M. W. Evans. The heat of reaction of the cerous-ceric couple in 0.5 molal perchloric acid at 25° C, by R. J. Fontana.

Note. The papers which form the basis of this volume were prepared during the course of research conducted to develop methods for producing plutonium. The book brings together a great quantity of data regarding the thermodynamic and physical properties of gases and compounds used in high temperature reactions, and is designed for the use of physicists and chemists engaged in this field of research. Each paper includes a brief summary and list of references. No index is provided.

RICCI, JOHN ETTORE

Hydrogen ion concentration: new concepts in a systematic treatment. Princeton, New Jersey: Princeton University Press, 1952. 460 p. illus. 24 cm. $10.00 435

Contents. Definitions and fundamental relations. The theorem of isohydric solutions. Special values and limits of the ionization fractions for acids and bases. Limits of ionization fractions and the iso-electric point for salts and ampholytes. Application of the exact equations for the determination of the constants. Interpretation of ionization constants. Some direct applications of the general equations as relations of the concentrations. Calculation of the numerical value of *H* from the general equations. Feasibility (sharpness) of titration; exact case of strong acid and strong base (pure). Problems involving one ionization constant. Two weak acids and strong base. Titration (with strong base or strong acid) in mixtures involving any number of independent ionization constants. Titration with weak acid or weak base. Problems involving two interdependent ionization constants (dibasic acid, its salts with strong and weak bases; ampholytes). Some complex cases. Tribasic acids; salts with strong and weak bases. Saturation with respect to acids and bases. Pure saturated aqueous solution of a salt. Saturation with salts of monobasic acid. Saturation with salts of dibasic acid. Saturation with ampholytes and their salts. Index.

Note. In the words of the author of this original study: "The quantitative relations determining the hydrogen ion concentration of aqueous solutions constitute a purely mathematical problem subject to exact and systematic treatment and capable of simple and uniform presentation. In the book exact mathematical definitions which are independent of the various theories of the mechanism of ionization are stated, then on the basis of these definitions formulas are derived for calculations pertaining to hydrogen ion concentrations in aqueous solutions of various degrees of complexity." The book is an important contribution to theoretical chemistry.

RICCI, JOHN ETTORE

The phase rule and heterogeneous equilibrium. New York: D. Van Nostrand Company, Inc., 1951. 505 p. illus. 24 cm. $12.00. 436

Contents (abridged). One-component systems. Binary systems with complete miscibility in all states. Complete immiscibility in the solid state. Polymorphism of the components and pseudobinary behavior. Binary compounds. Systems with two liquid phases. Condensed binary diagrams and their determination. Ternary systems. Transitions involving pure solid phases. Freezing point equilibria involving two or three liquid phases. Reciprocal ternary systems. Quaternary systems (additive type). Quaternary system of water and reciprocal salt pair. Aqueous quinary systems. General references. Index of systems cited. Name index. Subject index.

Note. A thorough and rather original introduction to the applications of the phase rule, first stated by Gibbs in 1874, and now recognized as one of the basic laws of chemical reactions. It is written on the graduate level. Though specific data for a variety of systems are given, the work is not intended as a reference book of data on equilibria in specific systems. Papers from which examples are drawn are cited in footnotes throughout the work, in addition to the selected list of books at the end.

ROSSINI, FREDERICK DOMINIC

Chemical thermodynamics. New York: John Wiley & Sons, Inc., 1950. 514 p. illus. 21 cm. $6.50 437

Contents (abridged). Definition of terms. Fundamental constants and conversion factors. Energy and the first law of thermodynamics. Equivalence of mass and energy. Entropy and the second law of thermodynamics. Entropy and thermodynamic engines. Heat capacity of substances. Relations among the thermodynamic properties and functions. Heats and energies of reactions and processes. Thermodynamic functions from statistical calculations. Entropy and the third law of thermodynamics. Equilibrium between different phases of one pure substance. Fugacity—standard states. The ideal solution. The dilute real solution. Electromotive force and free energy. Equilibrium between different phases of two or more components. Special applications of thermodynamics. Thermodynamic calculations. Appendix. Author index. Subject index.

Note. A fairly comprehensive presentation of modern chemical thermodynamics. Pertinent concepts of atomic physics such as energy levels and nuclear spin are introduced early in the book and precede the discussion of the third law. The primary use of the book is as

text in college courses, but it has some usefulness as a survey for graduate chemists. Literature references accompany the chapters, and in addition there is a concluding chapter on the periodical and book literature in which data required for calculations of chemical thermodynamics can be found.

ROSSINI, FREDERICK DOMINIC, AND OTHERS

Selected values of chemical thermodynamic properties by Frederick D Rossini, Donald D Wagman William H. Evans Samuel Levine, and Irving Jaffe. Washington D C. Government Printing Office, 1952 1268 p. illus. 27 cm. (United States. National Bureau of Standards. Circular 500) $7.25 438

Contents: Introduction. Tables of selected values of properties of Series I: Heat of formation at 25° C; Free energy of formation at 25° C; Entropy at 25° C; Heat capacity at 25° C; Logarithm of the equilibrium constant of formation at 25° C; Heat of formation at 0° K. Tables of selected values of properties of Series II: Heat, temperature, and entropy of transition, fusion, and vaporization (including values of pressure). Specific references for the tables of properties of Series I. Specific references for the tables of properties of Series II. General list of references. Index.

Note: A much expanded set of tables compiled for chemists and engineers by the National Bureau of Standards from 1940 to 1950. They take the place of the tables appearing in *The thermochemistry of the chemical substances* by F R. Bichowsky and F D. Rossini, New York, 1936, and many were previously available in looseleaf form. The volume contains values of the heat and free energy of formation, entropy heat capacity and heats and temperatures of transition, fusion, and vaporization for all inorganic compounds (containing not more than two carbon atoms) where such data are available. Separate tables give references to the original literature from which the values were derived. Additional material in looseleaf form to supplement the data in this circular and to give thermodynamic properties as a function of temperature are being prepared under the direction of Donald D Wagman, and are available to laboratories upon request.

SEIDELL, ATHERTON AND WILLIAM F LINKE

Solubilities of inorganic and organic compounds, a compilation of solubility data from the periodical literature. By Atherton Seidell and *William F Linke*, with sections by *Alfred* W Francis and Roger G Bates. Supplement to the third edition containing data published during the years 1939–1949 inclusive. New York D Van Nostrand Company 1952 1254 p. illus. 24 cm. $12.50 439

Note. (1031) The third edition of this standard reference book for chemical libraries and laboratories was published in two volumes in 1940 and 1941 The arrangement of the supplement is similar to that of the main volumes. There are two main subdivisions and under each the compounds are arranged in alphabetical order Under each compound there is (1) a short description of the published work bearing on its solubility and (2) a tabulation of the available solubility data in various solvents. In addition there is a long section of data on ternary systems separating in two liquid layers and a monographic chapter "Recent contributions to the theory of electrolyte solubility" by Roger G. Bates. An author index arranged so as to serve also as a bibliography of cited papers, an organic compound index, and an inorganic and metal-organic cross-reference index are included.

STANDING COMMITTEE ON COMBUSTION SYMPOSIA

Third symposium on combustion and flame and explosion phenomena. Published under the auspices of the Standing Committee on Combustion Symposia, Bernard Lewis chairman. Baltimore The Williams & Wilkins Company 1949 748 p illus. 26 cm. $13.50. 440

Contents (abridged) Part I, Flame stabilization and quenching: The stability of open flames, by K. Wohl and others. Flame stabilization and propagation in high velocity gas streams, by G. C. Williams and others. Theory of ignition, quenching, and stabilization of flames of nonturbulent gas mixtures, by G. von Elbe and B. Lewis. The mechanism of flash back of aerated flames, by J. S. Forsyth and J. E. Garside. The structure and stability of diffusion flames, by D. A. Scholefield and J. E. Garside. Part II, Flame propagation in explosive gas mixtures: Theory of propagation of flames—general equations—approximate solutions—numerical integrations, by J. O. Hirschfelder and others. The role of free atoms and radicals in burner flames, by C. Tanford. Interaction of flame propagation and flow disturbances, by G. H. Markstein. Factors affecting flame propagation through dust clouds, by H. M. Cassel and others. Influence of molecular structure of hydrocarbons on rate of flame propagation, by T W Reynolds and M. Gerstein. Burning velocities in ethylene-air mixtures, by J. W Linnett and M. F Hoare. Development of combustion wave in flowing gas, by R. J Dery. Electrical properties of flames, by H. F Calcote. Part III, Flames of fuel jets: Mixing and combustion in turbulent gas jets, by W. R. Hawthorne and others. Diffusion flames, by K. Wohl and others. Part IV Ignition of gas mixtures: The ignition of gas mixtures by impulsive pressures, by W C. F Shepherd. The ignition of gaseous explosive media by hot wires, by H. P Stout and E. Jones. Ignition of gas mixtures by electric sparks, by H. Morris. Part V Kinetics and mechanism of combustion reactions. Processes in the vapor phase oxidation of ether by G. H. N Chamberlain and A. D. Walsh. Some aspects of the combustion of methane at low pressures, by A. J Everett and G. J. Minkoff. Reactions of adiabatically compressed hydrocarbon-air mixtures, by W. Jost. The mechanism of some elementary reactions occurring in flames, by V F Orlling and K. J. Laidler. The determination of radical concentrations and reactivities in chemical reactions, by H. W Melville. The oxidation of *sulphur dioxide in combustion processes*, by G. Whittingham. Kinetic aspects of the combustion of solid fuels, by J. R. Arthur and others. Mechanism of carbon combustion, by R. Mertens and L. Hellinckx. A study of recombination reactions of active particles produced by an electric discharge in water vapor by J. F Byrne. The reaction between hydrazine and hydrogen peroxide in the liquid phase, by A. S. Gordon. Part VI, Flame spectroscopy and radiation: Radiation studies on closed combustion chamber, by G. A. Hornbeck. Spectroscopic studies of low-pressure flames, by A. G. Gaydon and H. G. Wolfhard. Part VII, Burning and detonation of explosives. The spontaneous ignition of nitrocellulose, by E. K. Rideal and A. J. B. Robertson. The thermal initiation of explosion in liquid explosives, by A. J. B. Robertson. Hot spots and the initiation of explosion, by F P Bowden and A. Yoffe. The use of ammonium nitrate as a solid fuel to provide gas for propulsive purposes, by J. Taylor and G. P Sillitto. The properties of gases at high pressures which can be deduced from explosion experiments, by H. Jones. Part VIII, Thermodynamics of flame gases and thermochemistry: The energy of dissociation of OH, by E. Kline. The vapor pressure and heat of sublimation of carbon, by F Goldfinger. Part IX, Experimental techniques: Measurement of velocity and pressure of the gases in rocket flames by spectrographic methods, by F P. Bundy and H. M. Strong. The use of thermocouples in streaming exhaust gas, by E. F Fleck and others. An interferometric method of gas analysis, by H. L. Olsen. The automatic sampling of gases at high temperatures and pressures, by W R. Wykoff and others. Part X, Combustion in engines and rocket flame problems in the design of combustion chambers for liquid propellant rocket motors, by B. N. Abramson. The spontaneous combustion of fuels injected into a hot gas stream, by B. P Mullins. Factors affecting combustion stability by R. D. Park. Photographs at 300,000 frames per second of combustion and detonation in reciprocating engine, by T Male. Part XI, Gas burners and furnaces: The problem of gas temperature measurement above 1300° C., by R. Mayorcas and others. Energy transfer from flame gases to solids, by J. E. Eltham.

Note: Altogether there are 100 papers in this work, more than one-third of which were contributed by residents of countries other than the U. S. A. The typical paper is approximately 10 pages long and is devoted to the results of recent research or to descriptions of newly developed research techniques. It is addressed to graduate scientists or technologists and is supplemented by short lists of literature references. The book has no index. The proceedings of the two earlier symposia in the series were published in periodicals and did not appear as books

TAYLOR, HUGH S., AND SAMUEL GLASSTONE editors

A treatise on physical chemistry a co-operative effort by a group of physical chemists. Third edition—in five volumes. Volume two States of matter New York D Van Nostrand Company Inc. 1952 701 p illus. 24 cm. $12.00 441

Contents. The kinetic theory of ideal gases, by K. F. Herzfeld. The thermodynamics and statistical mechanics of real gases, by J. A. Beattie and W. H. Stockmayer. The liquid state, by G. E. Kimball. X-ray analysis of the solid state, by J. G. White. The colloidal state and surface chemistry, by J. W. Williams and others. Index.

Note. (1021) The second volume published of this third edition (the second edition was issued in two volumes in 1931) of a work which is planned as a comprehensive presentation of physical chemistry. As the table of contents indicates, the organization is that of a collection of signed monographs. Each monograph is specially written for the work and generally speaking is an up-to-date summary of its particular topic. The work is addressed primarily to graduate students of chemistry and professional chemists.

THON, N., editor

Tables of chemical kinetics: homogeneous reactions. Sponsored by the National Bureau of Standards, the Committee on Tables of Constants of the National Research Council, and Princeton University. Editorial office, Frick Chemical Laboratory, Princeton University. N. Thon, editor, D. G. Kelemen and G. Parravano, assistants. G. S. Forbes, M. Szwarc, and H. A. Taylor, corresponding expert collaborators. Issued September 28, 1951. Washington, D. C.: Government Printing Office, 1951. 731 p. 29 cm. (United States. National Bureau of Standards. Circular 510) Paper $4.00 442

Contents: Subject index. Alphabetical index. Code abbreviations for periodicals. Introduction. Tables.

Note. These tables represent a critically evaluated compilation of the available factual numerical data on rates and rate constants of homogeneous chemical reactions. Stressing the importance of experimentally ascertained facts, the editors have generally excluded data contingent on interpretations. Reaction equations are written in the simplest possible way on the basis of the observed overall chemical change. Each table is designated by a six-digit number, the first two of which refer to the type of reaction, the third to the phase of the homogeneous reaction, gaseous (1), liquid (2), or solid (3). The second three-digit group of the table number refers to the types of substances involved. Supplements to the work are planned.

WETMORE, F. E. W., AND D. J. LEROY

Principles of phase equilibria. New York: McGraw-Hill Book Company, Inc., 1951. 200 p. illus. 24 cm. (International chemical series, Louis P. Hammett, consulting editor) $4.50 443

Contents: Chemical equilibrium. One-component systems. Two-component systems. Two-component systems; types of equilibria involving only one phase of variable composition. Two-component systems; types of equilibria involving more than one phase of variable composition. Three-component systems. Three-component systems at fixed temperature and pressure. Three-component systems, solid diagrams and their plane projections. Four-component systems. Appendixes: The thermodynamic derivation of the phase rule. Free energy-composition curves for two-component systems. Index.

Note. A textbook planned for upperclass undergraduate and graduate students. Though considerable previous education in chemistry and physics is assumed, the book is introductory to the subject. The exposition is expressed in (to use the authors' words) "terms of laboratory criteria and from a fundamental point of view without recourse to formal thermodynamics." However, the thermodynamic approach is illustrated in the appendixes.

COLLOID CHEMISTRY

ALEXANDER, JEROME, editor

Colloid chemistry, theoretical and applied. Volume VII, Theory and methods, biology and medicine, technological applications. New York: Reinhold Publishing Corporation, 1950. 736 p. illus. 23 cm. $18.00. 444

Contents (abridged). Part I: Theory and methods: The intermediate-compound nucleus in nuclear reactions, by W. D. Harkins. Scattering by inhomogeneous materials, by P. Debye and A. M. Bueche. The effective depth of the surface zone of a liquid, by J. W. McBain and J. C. Henniker. Fermenergetics in the colloidal particle, by L. J. E. Hofer. The importance of colloids for catalysts and trace elements, by A. Krause. Paper chromatography of amino acids, by R. J. Block and H. A. Sober. Part II: Biology and medicine: Surface chemistry and biology, by A. E. Alexander. Some aspects of the interaction of drugs and enzymes, by F. Bernheim. Genes and biochemical reactions, by D. M. Bonner. Antibiotic colloidal electrolytes, by E. A. Hauser. The tubercle bacillus, by L. Grigoraki. Dental caries, by L. S. Fosdick. Part III: Technological applications: Basic agglomeration of carbon black aerosols, by C. A. Stokes. Organophilic clays, by E. A. Hauser. Colloid aspects of oil-well treatment, by P. H. Cardwell. Asphalt, by R. N. Traxler. The relation between chemical structure and performance of detergents, by D. S. P. Roebuck. The reclaiming of elastomers, by D. S. le Beau. Cellophane, by C. M. Reeser. Some physicochemical aspects of margarine manufacture, by H. W. Vahlteich. Photosensitive glass, by D. Stookey. Author index. Subject index.

Note. (1032a, 387*) Altogether there are forty-three papers in this latest addition to a well known series. As in the previous volumes, the papers have been written by outstanding specialists and are addressed to readers with technical education and experience. The current knowledge of the specific topic mentioned in the paper's title is compactly and authoritatively surveyed. Each paper is accompanied by a substantial bibliography and some of them are accompanied by special comments by the editor.

BURK, ROBERT EMMETT, AND OLIVER GRUMMITT, editors

Frontiers in colloid chemistry. New York: Interscience Publishers, Inc., 1950. 157 p. illus. 24 cm. (Frontiers in chemistry. Published under the auspices of Western Reserve University. Vol. VIII) $4.00 445

Contents: The role of adsorption in colloid science, by H. S. Taylor. Frontiers in chromatographic adsorption analysis, by H. H. Strain. Ion exchange, with special reference to synthetic resins, by R. J. Myers. Sedimentation, by V. R. Damerell. Colloidal electrolytes, wetting agents, and detergents, by J. W. McBain. Organization of crystals and micelles of soap—solubilization and detergency, by J. W. McBain. Subject index.

Note. The concluding volume in this series. Like the others, it contains short monographic papers, originally delivered as lectures on chemical topics of current importance. Recent developments are emphasized, but most of the authors have sketched in enough of the background to give an adequate picture of the current status. The lectures were addressed to graduate students and graduate chemists and the style, as might be expected, is technical. Literature references are included.

MCBAIN, JAMES W.

Colloid science. New York: Reinhold Publishing Corporation, 1950. 450 p. illus. 24 cm. $8.00 446

Contents: Emulsions and foams. Sorption. The effective depth of surfaces. The preparation of colloidal sols. Optical properties and study of colloids. Brownian movement. Ultrafiltration. The lyotropic series of ions. Viscosity, thixotropy and plasticity and dilatancy. Jellies and gels. Coagulation, protective action, and sensitization. Electrical and electrokinetic phenomena. Diffusion. Osmotic pressure and membrane equilibrium. Ultracentrifuges and centrifuges. Soaps and other colloidal electrolytes. Solutions of proteins. Nonaqueous systems of colloids. X-ray and other methods of studying colloids and high polymers. Cellulose and its derivatives. Other natural polysaccharides. Natural and synthetic rubber. The proteins: silk, wool, keratin, collagen, and the globular proteins. Artificial polymers. Resins and plastics. Clay. Aerosols. Author index. Chemical and compound index. Subject index.

Note. A well-organized and interesting presentation of basic knowledge of colloid phenomena together with some discussion of its applications. Though general and introductory, the book contains enough substance to make it useful to any trained chemist in search of an introduction to the field. Each chapter is accompanied by long lists of references to which statements in the text are keyed. In addition, there are briefer lists of more general works on the subject of each chapter. The author index includes the names of authors of literature cited in the references.

MARSHALL, CHARLES EDMUND

The colloid chemistry of the silicate minerals. New York Academic Press, Inc. 1949 195 p. illus. 24 cm. (Agronomy, a series of monographs. Vol. 1) $5.80 447

Contents: Historical outline. Introduction to silicate structures. Silicates based on three-dimensional framework. The colloidal properties of the zeolites. The structures of silicates with planar frameworks. The structural interpretation of chemical analyses of the clay minerals. The sizes and shapes of clay particles. The optical properties of clay aggregates and suspensions. Adsorption by the clays and its consequences. Clay acids and their titration curves. Basic exchange reactions of the clays. Electrokinetic properties of the clays. The mechanical properties of clay suspensions, gels and pastes. The properties of clay aggregates and films. Author index. Subject index.

Note: A monographic survey of what is known at the present time about the colloid chemistry of clays and other minerals containing a major proportion of silicon. It is of interest in the ceramic industry and other industries which use clays, as well as in agriculture. The presentation stresses the basic knowledge and experimental results. The chapters are accompanied by extensive reference lists. The author is Professor of Soils in the University of Missouri, and is well known for his contributions to the knowledge of the clays.

WEISER, HARRY BOYER

A textbook of colloid chemistry Second edition. New York John Wiley & Sons, Inc. 1949 444 p. illus. 24 cm $6.00 448

Contents (abridged) Part I, Adsorption. Surface tension and adsorption. General characteristics of adsorption of gas or vapor. Mechanism of the adsorption of gas or vapor. Adsorption of liquid by solid wetting. Adsorption from solution of non-electrolytes and weak electrolytes. Adsorption from solution of strong electrolytes. Adsorption of liquid by liquid. Part II, Sols: Formation of sols I. Purification of sols. The optical properties of sols. The kinetic properties of sols. Electrokinetic and electrochemical properties of sols. The stability of hydrophobic sols. Part III, Gels. Part IV Emulsions and foams. Part V, Aerosols and solid sols. Part VI, Applications of colloid chemical principles to contact catalysis and dyeing. Index of authors. Index of subjects.

Note. (1949) An introductory textbook, which is also a convenient survey and reference manual for working chemists who are not specialists in colloid chemistry. Not only are the main concepts and phenomena explained clearly but a considerable body of the pertinent literature is digested. The index of authors cited contains approximately 800 names. The organization and general content of this edition are essentially the same as the first edition (1939) but numerous revisions have been made throughout the text and in the bibliographies.

RADIOCHEMISTRY

CALVIN, MELVIN *AND OTHERS*

Isotopic carbon, techniques in its measurement and chemical manipulation by Melvin Calvin, Charles Heidelberger James C. Reid, Bert M. Tolbert, and Peter F Yankwich. New York John Wiley & Sons, Inc., 1949 376 p illus. 24 cm. $6.75 449

Contents. Production and properties of isotopic carbon. Measurement of carbon 11. Characteristics of carbon tracer radiations. Instruments for radioactivity measurement. Detectors for radioactivity measurements. Sample preparation. Vacuum techniques in organic chemistry. Synthesis of carbon-labeled compounds. Criteria of purity. Degradation procedures. Biosynthetic methods. Appendixes. Bibliography. Author index. Subject index.

Note: A reference book and laboratory manual for the use of scientists and technicians who are using isotopic carbon (C^{13} or C^{14}) in laboratory procedures. As indicated by the chapter titles, matters that apply generally to the manipulation of isotopic carbon—and to a certain extent, other radioactive isotopes—are first considered, then in the sixth chapter procedures for the actual syntheses of labeled compounds are given. This chapter is ninety pages long, and it summarizes all of the syntheses which have been reported in the literature up to April, 1948. The appendixes furnish information on dilution methods, efficiencies of counters, radioactivity assay on induction ionizer for a closed system, and other topics. There are numerous bibliographical footnotes and an extensive bibliography

CORYELL, CHARLES DUBOIS, AND NATHAN SUGARMAN, editors

Radiochemical studies The fission products. New York McGraw Hill Book Company Inc., 1951 2086 p. illus. 24 cm. 1 volume in 3 (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record, Vol. 9) $27 75 449a

Contents (abridged) Part I, Counting techniques (papers 1 to 11) Part II, Chemical studies at tracer levels (papers 12 to 23) Part III, Remote-control techniques (papers 24 to 33) Part IV Studies of the fission process (papers 34 to 52) Part V Radioactivity of the fission products (papers 53 to 199) Part VI, Radiochemistry of the fission-product elements (papers 200 to 310) Part VII, Special studies of gaseous fission products (papers 311 to 317) Part VIII, Radiochemical studies of other activities (papers 318 to 336). Appendixes. Index.

Note: The 336 papers comprising these three volumes were prepared from 1942 to 1946 during the search for methods for producing plutonium. Each paper is complete in itself but together they provide a detailed account of the nuclear properties of fission products, and of the techniques employed in their production. Many of the papers have been corrected and rewritten, and an effort has been made to correlate their contents through the use of cross references, but always the original data have been retained. Brief summaries and lists of references are included with each paper.

FRIEDLANDER, GERHART, AND JOSEPH WILLIAM KENNEDY

Introduction to radiochemistry New York John Wiley & Sons Inc., 1949 412 p illus. 22 cm. $5.50 450

Contents: Naturally occurring radioactive substances. Atomic nuclei. Nuclear reactions. Sources of bombarding particles. Quantitative treatment of radioactive processes. Types of radioactive decay. Interaction of radiations with matter. Instruments for radiation detection and measurement. Statistical considerations in radioactivity measurements. Techniques for measurement and study of radiations. Identification, concentration, and isolation of radioactive species. Chemistry of low concentrations and the study of new elements. Tracers in chemical applications. Appendix. Index.

Note. A general, introductory textbook. The authors have assumed that their readers will be familiar with basic physics and chemistry and therefore have devoted the book to the phenomena of radioactivity and their significance to chemistry. Comparatively little space is given to applications, but there are some incidental references and one entire chapter on these aspects. Applications are covered more thoroughly in Wahl, A. C., *Radioactivity applied to chemistry* (see below). The main feature of the appendix is a table of "*Radioactive and stable isotopes of the elements,*" which is almost 100 pages long and combines data from several sources.

UNITED STATES ATOMIC ENERGY COMMISSION

Isotopes. A three-year summary of distribution. With extensive bibliography Washington, D C. Government Printing Office, 1949 201 p illus. 23 cm. Paper $1.00 451

Contents: Growth of isotope distribution. Production. Isotope labeled compounds. Increased isotope utilization. Domestic utilization. Foreign utilization. Training in radioisotope techniques. Future of program. Appendixes: Statistical information on growth of program; Chronological outline of development of isotopes distribution program. List of using institutions and departments. Tables on isotope distribution. Graphic illustrations of isotope distribution. Outlines of procedure for obtaining radioisotopes. List of isotopes available and information on isotope-labeled compounds. Bibliography: List of papers on isotope utilization. Medicine. Animal physiology. Bacteriology. Animal husbandry. Plant physiology. Physics. Chemistry. Industrial research. General. Author index for bibliography

Note: An official account of the first three years of the distribution of radioactive elements for use in peacetime research. During this period, August 2, 1946–June 30, 1949 a total of over 7000 shipments of radioactive isotopes, for use as tools of basic science,

agriculture, medicine, and industry was made to approved investigators in the United States and abroad. More than half of this report is devoted to a classified bibliography of papers written as the result of investigations made possible through use of isotopes from Atomic Energy Commission facilities. The bibliography and the report itself are supplemented by the later publication, *Isotopes: a five-year summary of distribution with bibliography.* Washington, D. C. Government Printing Office, 1951. 451 p., paper $1.00.

WAHL, ARTHUR CHARLES, AND NORMAN A. BONNER, editors

Radioactivity applied to chemistry. New York: John Wiley & Sons, Inc. 1951. 604 p. 24 cm. $7.50 452

Contents (abridged): Part I. Introduction. Isotopic exchange reactions, by O. E. Myers and R. J. Prestwood. Radioactivity applied to chemical kinetics, by C. E. Crompton. Radioactivity applied to structural chemistry, by V. J. Linnenbom. Radioactivity applied to self-diffusion studies, by J. H. Wang. Radioactivity applied to analytical chemistry, by V. J. Linnenbom. Behavior of carrier-free tracers, by N. A. Bonner and M. Kahn. Radioactivity applied to the discovery and investigation of the newer elements, by C. S. Garner. Chemical phenomena accompanying nuclear reactions (hot-atom chemistry), by J. W. Barnes and others. Emanation methods, by A. C. Wahl. Radioactivity applied to surface determinations, by J. H. Wang. Part II. Tables. Appendixes. Bibliography. Index.

Note. A comprehensive survey written on the professional level. It is based on literature searches that were designed to cover all of the published literature pertinent to the subject published in American journals through 1949 and in foreign journals to various dates in 1949. The published information has been summarized in essay form in the signed chapters in Part I, and presented in tabular form in eighteen tables in Part II. Source publications are cited in both parts.

WILLIAMS, RUSSELL R.

Principles of nuclear chemistry. New York: D. Van Nostrand Company, Inc., 1950. 307 p. illus. 22 cm. $4.75 453

Contents: The atomic nucleus. Physical and chemical manifestations of nuclear mass. Devices for preparation and detection of unstable nuclides. Nuclear decay reactions. Nuclear bombardment reactions. Chemical operations with unstable nuclides. Chemical consequences of nuclear reactions. Chemical and biological effects of nuclear radiations. Applied nuclear chemistry. Appendixes. Index.

Note: A brief text for advanced chemistry students, who are interested in the application of nuclear phenomena to the study of chemical problems and processes. Of necessity much of the material is concerned with the fundamentals of nuclear physics, but throughout the book the chemists' point of view is maintained. Emphasis is also placed on the principles of radiochemistry techniques rather than on specific laboratory practices.

CRYSTALLOGRAPHY AND PIEZOELECTRICITY

BUCKLEY, HAROLD EUGENE

Crystal growth. New York: John Wiley & Sons, Inc. 1951. 571 p. illus. 22 cm. $9.00. 454

Contents: Solution and solubility; solubility and supersolubility. The artificial preparation of crystals. The Curie theory of crystal growth. The so-called velocities of growth. The diffusion theories. Recent theories of crystal growth. Ideal and real crystals. Miscellaneous types of crystallization. Dissolution phenomena. Crystal habit modification by impurities. Relationship of substances during crystallization. Peculiarities of crystal growth. Appendix: Habit modification in crystals as a result of the presence of impurities. Name index. Subject index.

Note: A substantial survey of the current knowledge of the phenomena of crystal formation and of the techniques of growing large crystals in the laboratory. Due attention is paid to the historical development of the field. Reference numbers in the text are keyed to extensive literature citations at the end of each chapter and the names of the authors of the quoted articles are brought out in the name index. There are 24 plates made principally from photographs of crystals and 140 figures based chiefly on line drawings.

EITEL, WILHELM

Thermochemical methods in silicate investigation. New Brunswick, New Jersey: Rutgers University Press, 1952. 132 p. illus. 24 cm. $4.75 455

Contents: Introduction. Heats of formation and reaction. Calorimeters for the determination of heats of reaction. Thermochemical principles for the problem of reaction affinities. Experimental methods for determining reaction affinities. Examples for the calculation of free energy changes and affinities. The possibility of anomalies at low temperatures, statistical meaning of entropy. Appendixes. Index to compounds. Subject index.

Note. Thermochemical concepts combined with the techniques of modern calorimetry constitute a powerful tool in investigations of structure-energy relationships and the determination of crystal structure. This book supplements the rather scanty literature on the subject. It is based largely on work of the Kaiser Wilhelm Institute for Silicate Research, with which the author was associated for many years, but the contributions of American workers in the field are included also. Literature references and valuable notes are included at various points in the text. The book is of interest to research workers in such fields as crystallography, petrology and ceramics.

MASON, WARREN PERRY

Piezoelectric crystals and their application to ultrasonics. New York: D. Van Nostrand Company, Inc., 1950. 508 p. illus. 24 cm. (The Bell Telephone Laboratories series) $10.00 456

Contents: Crystal systems, classes and symmetries. Elastic, piezoelectric, and dielectric relations in crystals. Properties of crystals determinable from small sizes. Resonance measurement of the properties of large-size crystals. Properties and uses of quartz crystals. Properties and uses of rochelle salt. Properties and uses of ammonium dihydrogen phosphate (ADP) and potassium dihydrogen phosphate (KDP). Properties and uses of ethylene diamine tartrate (EDT) and dipotassium tartrate (DKT) crystals. Measurements of the properties of a number of piezoelectric crystals. Theory of ferroelectric crystals. Electrostrictive effect in rochelle salt and barium titanate. Properties of gases and methods for measuring them by crystal transducers. Measurement of the properties of liquids. Properties of solids and their measurement by ultrasonic waves. Appendix. Index.

Note. A technical work addressed to such readers as graduate physicists and communications engineers engaged in research and design. It is one of several fundamental modern works on piezoelectricity, all of which complement one another. Although there is some discussion of quartz crystals, there is much more on such crystals as EDT, DKT and the others named in the table of contents. The properties of these crystals are fully described from the theoretical standpoint. The last three chapters discuss the investigation of certain properties of gases, liquids, and solids by means of ultrasonic radiation generated by piezoelectric crystals.

NATIONAL RESEARCH COUNCIL. DIVISION OF PHYSICAL SCIENCES. COMMITTEE ON SOLIDS

Imperfections in nearly perfect crystals. Symposium held at Pocono Manor, October 12–14, 1950. Editorial committee: W. Shockley, J. H. Hollomon, R. Maurer and F. Seitz. New York: John Wiley & Sons, Inc. 1952. 490 p. illus. 24 cm. $7.50 457

Contents: I. On the nature of imperfections in nearly perfect crystals. Imperfections in nearly perfect crystals—a synthesis, by F. Seitz. On the geometry of dislocations, by W. T. Read, Jr., and W. Shockley. II. The role of imperfections in deformation. Imperfections from transformation and deformation, by C. S. Barrett. Experimental information on slip lines, by W. T. Read, Jr. X-ray diffraction studies of cold work in metals, by B. E. Warren and B. L. Averbach. Mechanical strength and creep in metals, by N. F. Mott. The influence of dislocations and impurities on the damping and the elastic constants of metal single crystals, by J. S. Koehler. III. Diffusion and related phenomena: Relaxation effects in ionic crystals, by R. G. Breckenridge. Studies of alkali halides by photoelectric methods, by L. Apker and E. Taft. Diffusion in alloys and the Kirkendall effect, by J. Bardeen and C. Herring.

Theory of diffusion, by C. Zener IV On the properties and effects of external and internal surfaces of crystals: Surface and interfacial tensions of single-phase solids, by J. C. Fisher and C. G. Dunn. Dislocation models of grain boundaries, by W. T. Read, Jr. and W. Shockley. Interphase interfaces, by C. S. Smith. Substructures in crystals, by A. Guinier. The properties and effects of grain boundaries, by B. Chalmers. Movement and diffusion phenomena in grain boundaries, by R. Smoluchowski. Author index. Subject index.

Note: A valuable addition to the literature of the physics of solids. It contains both the final papers whose titles are given above and excerpts from the discussions at the symposium. The first paper is an authoritative survey of the current status of the knowledge of imperfections in crystals. The other papers, for the most part, describe results of recent investigations. In addition to being fundamental work for specialists in crystallography the book is of interest to physicists working in the fields of semiconductors and the physics of metals and to metallurgists conducting fundamental research.

NATIONAL RESEARCH COUNCIL. DIVISION OF PHYSICAL SCIENCES. COMMITTEE ON SOLIDS

Phase transformations in solids. Symposium held at Cornell University August 23–26, 1948 Editorial committee R. Smoluchowski, J E Mayer and W A. Weyl. New York John Wiley & Sons Inc., 1951 660 p. 22 cm. $9.50 458

Contents: On the general theory of phase transitions, by L. Tisza. A general method for imperfect crystals and phase transitions, by J. E. Mayer. Crystallization as a cooperative phenomenon, by J. G. Kirkwood. Fundamental aspects of diffusion in solids, by F Seitz. Nucleation theory, by R. Smoluchowski. Crystallographic aspects of phase transformations, by M. J Buerger. The solid liquid transition in argon, by O. K. Rice. Transitions in silver halides, by M. L. Huggins. Phase transformations in one-component silicate systems, by F C. Kracek. Phase transformations in polycomponent silicate systems, by J F Schairer. Transitions in glass, by W A. Weyl. Phase transitions in ferroelectrics, by B. Matthias. Transformations in pure metals, by C. S. Barrett. Order-disorder transitions in metal alloys, by S. Siegel. Precipitation from solid solutions of metals, by A. H. Geisler. The eutectoid reaction, by R. F Mehl and A. Dubé. The martensite transformation, by M. Cohen.

Note: The phenomena of phase transformations in solids is of interest in a variety of fields, some of which, such as photography and metallurgy are not obviously related. The papers are addressed primarily to scientists working in laboratories and industry. They are accompanied by lists of related literature and by transcripts of discussions. Although the book is a valuable contribution to knowledge, no index has been provided.

UNITED STATES. NATIONAL BUREAU OF STANDARDS. NATIONAL APPLIED MATHEMATICS LABORATORIES

Tables for conversion of X ray diffraction angles to interplanar spacing. Issued September 20 1950 Washington, D C. Government Printing Office, 1950 159 p 27 cm. (United States. National Bureau of Standards. Applied mathematics series 10) $1.75 459

Contents: Introduction. Tables of spacing values [$\theta = 0°(0.01°)90°$]: Molybdenum $K\alpha_1$ radiation, $\lambda = 0.70926$A. Copper $K\alpha_1$ radiation, $\lambda = 1.54050$A. Nickel $K\alpha_1$ radiation, $\lambda = 1.65783$A. Cobalt $K\alpha_1$ radiation, $\lambda = 1.78890$A. Iron $K\alpha_1$ radiation, $\lambda = 1.93597$A. Chromium $K\alpha_1$ radiation, $\lambda = 2.28962$A. Tables of spacing values [$2\theta = 0°(0.02°)180°$]: Copper $K\alpha_1$ radiation, $\lambda = 1.54050$A. Iron $K\alpha_1$ radiation, $\lambda = 1.93597$A.

Note: These tables give spacing values d in angstrom units corresponding to the angles θ which are usually measured when diffraction patterns are used for chemical identification and crystal structure determination. The angles are related to interplanar spacings by the formula $d = \frac{\lambda}{2\sin\theta}$ where λ is the wavelength of incident X radiation and θ is half the angle between the incident and diffracted rays. The wavelengths used in the calculations are those adopted at the International Conference sponsored by the British Institute of Physics in London, July 1946.

WAHLSTROM ERNEST EUGENE

Optical crystallography Second edition New York John Wiley & Sons, Inc., 1951 247 p illus. 24 cm. $4.50 460

Contents: Crystallography. Physical properties. Elementary optics. Optics of isotropic substances. The polarizing microscope. Measurement of index of refraction. The uniaxial indicatrix. Polarization of light. Uniaxial crystals in plane-polarized light. Uniaxial crystals in convergent polarized light. Optical accessories. Sign determination in uniaxial crystals. Biaxial crystals—the biaxial indicatrix. Biaxial crystals in convergent polarized light. Determination of optic sign in biaxial crystals. Dispersion in biaxial crystals. Microscopic examination of nonopaque substances. Appendixes. Index.

Note: (1059) The techniques and principles of optical crystallography are rapidly finding application in fields other than those of mineralogy and petrology. This volume is intended to serve as an introduction to the subject for workers in these other fields who are concerned with the identification of solids. Like its predecessor, this edition deals primarily with basic principles and theories. Most of the chapters have been rewritten and expanded and numerous three-dimensional drawings have been added. The section on the universal stage method has been enlarged, and the selective bibliography has been revised and brought up to date.

WYCKOFF RALPH WALTER GRAYSTONE

Crystal structures. Volume II. New York Interscience Publishers, Inc., 1951 [585] p. illus. 25 cm. $10.00 461

Contents: Compounds of the type $R_x(MX_4)_y$. Compounds of the type $R_x(MX_n)_y$. The crystal structures of hydrates and ammoniates. The structures of aliphatic compounds.

Note: (191*) A standard reference work of data on crystal structures. It is published in loose-leaf form so that additional and revised pages may be inserted as new data become available. In addition to Volume II, noted above, which extends the work to new groups of compounds, there was published in 1951 the first supplement to Volume I, consisting of pages to be inserted in that volume.

GEOLOGY

GENERAL

BRANSON EDWIN BAYER, AND W A. TARR

Introduction to geology Third edition. Revised by Carl C. Branson and W D Keller New York McGraw Hill Book Company Inc. 1952 492 p illus. 24 cm. $5.50 462

Contents (abridged) Part I, Physical geology: The organization of matter (of the earth) Volcanism and igneous rocks. Weathering of igneous rocks. Running water Ground water The oceans. Sedimentary rocks. Metamorphic rocks. Snow and ice. The wind. Structures and diastrophism. Earthquakes. Part II, Historical geology: Origin of the earth. The Paleozoic—Mississippian, Pennsylvanian, and Permian periods. The Mesozoic era. Lower Mesozoic—Triassic period. Middle Mesozoic—Jurassic period. Upper Mesozoic—Cretaceous period. The Cenozoic era. The Pleistocene or glacial epoch. Index.

Note: (1074) A standard textbook for college courses offered to students who are not majoring in geology but need the subject for cultural background. It is simply written and fully illustrated. The second edition was published in 1941 In the present edition changes have been made in both the text and illustrations. The chapters have been rearranged somewhat and accounts of certain new developments of fairly broad interest, such as the birth of the volcano Paricutin, have been added. Because little technical terminology is used it has some utility as survey and general reference work for lay readers.

DUNBAR, CARL OWEN

Historical geology New York John Wiley & Sons Inc., 1949 567 p illus. 24 cm. $6.25 463

Contents Prologue. Records in stone. The scale of time. Fossils, living record of the dead. The constant change of living things. Before the Cambrian Origin of the earth. The Cryptozoic eon—pre-Cambrian history of the earth. The Paleozoic world: The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period, crisis in earth history. The Mesozoic world. The Triassic period. The Jurassic period. Cretaceous time and the end of an era. The modern world unfolds: Physical history of the Cenozoic era. Ice sculptures the final scene. Mammals inherit the earth. The coming of man. Epilogue. Appendices. Index.

Note (1088) This work is revision of *Textbook of geology Part II, Historical geology* fourth edition, by the author and the late Charles Schuchert. Written for use in beginning course in historical geology it offers survey of the physical and biological changes on the earth from the earliest records to the time of prehistoric man, with emphasis on the North American continent. The text has been reworded in parts and recent advances in the field have been included. New publications have been added to the bibliographies. The book is profusely illustrated with photographs, maps, and diagrams, many of which are new

EMMONS WILLIAM HARVEY AND OTHERS

Geology principles and processes. By William H. Emmons George A. Thiel, Clinton R. Stauffer and Ira S Allison Third edition New York McGraw Hill Book Company Inc., 1949 502 p. illus. 24 cm. $5 50 464

Contents: Introduction Materials that constitute the earth. The atmosphere. Wind as an agent of gradation Ground water Gradation by mass movement of surface materials Gradational work of streams. Gradational work of snow and ice Lakes and swamps or marshes. The ocean The origin and nature of sediments Sedimentary rocks. Volcanism Igneous rocks. Diastrophism. Earthquakes. The origin and structure of mountains. Metamorphism Probable conditions within the earth Mineral deposits Appendices. Index.

Note. (1077) A brief and simple introduction designed for use in one-semester college courses. It is limited largely to landscape features and to geological processes that are easily observed and comprehended. In this edition number of illustrations, many of them aerial photographs, have been added. Also, there has been some changes in the text, but the revision has not been extensive.

ENGELN OSCAR DIEDRICH VON, AND KENNETH E. CASTER

Geology New York McGraw Hill Book Company Inc., 1952 730 p. illus. (part col d) 24 cm. $7 00 465

Contents (abridged) Introduction to geology: Materials of the earth. History of early geologic ideas. The natural history of igneous rocks: Origin and composition of magma. Phenomena of intrusion. Phenomena of extrusion. Volcanic cones and associated phenomena. Igneous rock classes and varieties. Structure, process, forms: sedimentation. Underground water. Diastrophism. Structural geology. Metamorphism. Mountains and plateaus. Sculpture of the land in humid regions. Sculpture and modeling of the land in arid regions. Geology of the shores and floor of the oceans. Nature and functions of glaciers. Geologic history: Cenozoic era. Mesozoic era. Paleozoic era. Cryptozoic eon. Index.

Note: An introductory college text suitable for use by both students who will take only an introductory course and those who plan to pursue the subject further. It provides view of the basic content of the main branches of geology including paleontology. Also there is brief presentation of current theories of cosmology. The book is written in clear style and is adequately supplied with literature references and illustrations.

FENTON CARROLL LANE, AND MILDRED ADAMS FENTON

Giants of geology New York Doubleday & Company Inc. 1952 333 p. illus. 22 cm. $3 50 466

Contents Floods and exhalations. Graybeards succeed dusty Magi and ancient volcanoes. Geology by decree. Three skeptical Scots. Neptune versus Vulcan. Like goes with like. Knight of the "principle." The Cambrian conflict. Agassiz of the ice age. New science in new world. Ex-convict professor. Geologist at large. Immigrant surveyor That nation might grow Fossils or fancies? Hugh Miller of the "Old Red." A great and good man. Railroads and new surveys. Canyon's conqueror Earth blisters and changing land. Law, Lath and Her Majesty's Survey Glaciers to galaxies. Sources and references. Index.

Note The lives and personalities of major contributors to the development of geological knowledge lend interest to what is essentially popular account of the growth of geology The book is addressed to general readers and is good example of scientific writing for this group. The narrative is supplemented by portraits and other illustrations of considerable interest. There are no bibliographical references in the text but the list of "sources and references" at the end of the book is arranged in the same order as the chapters. The first edition was entitled *The story of the great geologists.*

GARRELS ROBERT MINARD

A textbook of geology New York Harper & Brothers 1951 511 p. illus 24 cm. (Harper's geoscience series Carey Croneis editor) $5 00 467

Contents (abridged) The general setting. Surface features of the earth. The problem of the history of the earth. Earth history from study of running water. Work of the waves. The work of the wind The work of ice. The sedimentary rocks. Igneous rocks. Metamorphic rocks Evidence of earth movement. The interior of the earth. Mechanics of earth movement. The origin of the earth. Fossilization. A survey of geologic history The mechanism of evolution The interpretation of geologic environments—reconstruction of typical area. The origin of man. Appendixes: The use of graphs. Field identification of common igneous rocks and minerals. Classification of plants and animals. Index.

Note: In this introductory college textbook the approach to the subject is analytical rather than descriptive. Such geological processes as wind erosion are studied first from the viewpoint of the physical principles and second with regard to the geological effects. Some mathematics is used but it is relatively simple. The illustrations are numerous and of excellent quality. The author is a member of the faculty of Northwestern University

GILLISPIE, CHARLES COULSTON

Genesis and geology a study in the relations of scientific thought, natural theology and social opinion in Great Britain, 1790–1850 Cambridge Harvard University Press 1951 315 p. 22 cm. (Harvard historical studies published under the direction of the Department of History Vol. LVIII) $4.50 468

Contents: Through nature up to nature's God. Neptune and the flood. From diluvianism to paleontology. Catastrophist geology. The uniformity of nature. The vestiges of creation. How useful is thy dwelling place. The place of providence in nature. Bibliographical essay. Notes. Index.

Note: A study of an interesting chapter in the development of geology in particular and of scientific thought in general. It is largely limited to the efforts of scientists themselves to reconcile theology with science. The author states "... having decided that the issues discussed arose from a quasi-theological frame of mind within science, I have written from that point of view and have excluded the purely clerical opponents of science as a whole." The author shows that the geologists of the time were true forebears of Darwin and that they prepared the stage for the controversy over *Origin of species.* The "Bibliographical essay" is a running account of sources, manuscript works, popular scientific works, scientific societies, and periodicals.

GILLULY JAMES AND OTHERS

Principles of geology By James Gilluly, Aaron C. Waters and A. O Woodford. Illustrations by Robert R. Compton. San Francisco California W. H. Freeman & Company 1951 631 p. illus 24 cm. $5 75 469

Contents: Introduction. The earth's broad pattern. Gravity, isostasy strength. Minerals. Rocks. Climates, weathering, and soils. Erosion. Geologic maps, fossils, and time. Movements of the earth's crust. Records of earth movement. Downslope movements of soil and rock. Stream erosion and deposition. Glaciers and glaciation. Ground water. Deserts. The oceans. Igneous activity. Earthquakes and the earth's interior. Mountains. Mineral resources. Appendixes. Index.

Note: A general introductory textbook in which the emphasis is placed on geological processes rather than on rock classification, etc. Basic terms and concepts such as isostasy are explained with care. Also the authors liven the accounts from time to time by including such material as the controversy over the origin of basalt. The text reads easily and the book is excellently illustrated.

HOLMES, CHAUNCEY D

Introduction to college geology New York The Macmillan Company 1949 429 p. illus. 22 cm. $4.50 470

Contents: Earth records its own history. The planet earth. Minerals of the earth. Common igneous rocks and minerals. Sedimentary rocks and minerals. Archeozoic era. Proterozoic era. Paleozoic lands and seas. Some Paleozoic rocks and historic events. Paleozoic life Cambrian—Silurian. Paleozoic life Devonian—Permian. Background events of Mesozoic environment. Mesozoic life: reptiles—earth's other animals and plants during the reptilian reign. Survey of Cenozoic history. Cenozoic mammals. The ice age. The geologic history of man. Rivers and landscapes. Water beneath the land. Winds. Petroleum. Supplements. How to identify the common minerals. Rock identification. Index.

Note: A short, well-illustrated work in which the traditional division of the subject into physical geology and historical geology is avoided. The style is very readable, hence the book is suitable for general readers as well as college students.

LIBBY WILLARD FRANK

Radiocarbon dating Chicago The University of Chicago Press 1952 124 p. illus. 23 cm. (The University of Chicago Committee on Publications in the Physical Sciences Walter Bartky Warren C. Johnson, Joseph E. Mayer Cyril S Smith, William H. Zachariasen) $3.50 471

Contents: Principles. World-wide distribution of radiocarbon. Half-life of radiocarbon. Preparation of the sample for measurement. Measurement of the sample. Radiocarbon dates. The significance of the dates for archeology and geology by Frederick Johnson. Appendixes: Special equipment and chemicals for the C^{14} sample preparation apparatus. Special materials for screen-wall counter. Indexes: Index of subjects. Index of names. Index of samples.

Note: The principles and techniques of estimating the ages of organic materials, especially artifacts of archeological interest, by measuring their radioactive carbon content are described in this book. Radiocarbon dating was developed by the author and his associates and this is the pioneer book about it. Methods of preparing samples and of measuring the weak radiation are described explicitly. Included is a complete tabulation of dates assigned to a variety of archeological samples by use of the radiocarbon technique up to the fall of 1951.

MASON, BRIAN

Principles of geochemistry New York John Wiley & Sons, Inc. 1952 276 p. illus. 24 cm. $5 00 472

Contents: Introduction. The earth in relation to the universe. The structure and composition of the earth. Some thermodynamics and crystal chemistry. Magmatism and igneous rocks. Sedimentation and sedimentary rocks. The hydrosphere. The atmosphere. The biosphere. Metamorphism and metamorphic rocks. The geochemical cycle. Index.

Note: The author states that in this work "The aim has been to summarize the significant facts and ideas concerning the chemistry of the earth and to synthesize these data into a coherent account of the physical and chemical evolution of the earth." The chapter titles fail to indicate the chemical emphasis. For example, the chapter on the hydrosphere is organized under the following sub-heads: The composition of sea water. The composition of terrestrial waters. The balance of dissolved matter in sea water. The history and evolution of the ocean, and it contains 6 tables of chemical data. The level of treatment is introductory to this field, but readers need a background in basic chemistry, physics, and geology. The author is a member of the faculty of the Department of Geology of Indiana University

MOORE, RAYMOND CECIL

Introduction to historical geology New York McGraw Hill Book Company Inc. 1949 582 p. illus 23 cm. $6.50 473

Contents: Materials and methods of historical geology. Evolution of life. The beginning of the earth. The Pre-Cambrian period. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Nature and evolution of Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Nature and evolution of Mesozoic life. The Tertiary period. The Quaternary period. Nature and evolution of Cenozoic life. The geologic record of man. Appendix. Index.

Note: An introductory text for college students enrolled in courses in historical geology and for lay readers who wish to inform themselves about the past history of the world in which they live. It is written in simple language and principles rather than details are emphasized. The treatment is more elementary and more graphic than in the author's *Historical geology* New York, 1933. The total number of illustrations, including maps, sections, diagrams, photographs of typical rock exposures, topographic features, characteristic fossils, and photographs of restorations, amounts to 344, each with descriptive comments. Most of the illustrations are original. There is a detailed index.

PEARL, RICHARD MAXWELL

Guide to geologic literature. New York McGraw Hill Book Company Inc., 1951 239 p. 24 cm. $4.50 474

Contents: Part I, Introduction: The problem of geologic literature. Conducting the search. Part II, Library facilities: Arrangement of the library. Library catalogues. Indexing. Library services. Part III, Kinds of geologic literature: Index guides and bibliographies. Ab-

stracts. Periodicals. United States government documents. Organization bulletins. State bulletins. County and city bulletins. Bulletins of other countries. Books. Newspapers. Theses. Unpublished manuscripts. Maps. Index.

Note: A reference manual which contains descriptions of the standard and useful geologic literature and advice on searching it for published information. Under each of the headings given above the utility of a specific class of literature is discussed briefly and the chief publications are named and briefly described. The scope has not been restricted to strictly geological books and journals, but journals that include information of interest to geologists along with information on other topics have also been included. Publications of only historical interest are described along with those of value in current geological work.

REICHE PARRY

A survey of weathering processes and products. Revised edition. Albuquerque The University of New Mexico Press 1950 95 p. illus. 23 cm. (University of New Mexico publications in geology Stuart A. Northrop editor No 3) Paper $1 00 475

Contents Introduction. Physical processes. Chemical processes and reagents. The results of chemical weathering. Soil-forming processes and soils. The factors of relief and time. Appendix. Bibliography

Note. Essentially this work is a concise review of the current knowledge of the weathering of rock by chemical processes. Physical processes are outlined in the first chapter but are given comparatively little space. The treatment of the chemical processes assumes a knowledge of basic chemistry on the part of the reader. Although compact, the presentation is not so condensed that every reader will have to resort to the literature. A bibliography of 83 citations is included. The book is suitable for upperclass undergraduate college students who are majoring in geology and for college graduates doing work in geology or in related fields such as the physics or chemistry of soils, where a general knowledge of weathering processes is useful.

SIEGRIST MARIE AND ELEANOR TATGE

Bibliography and index of geology exclusive of North America. Volume 13 1948 New York The Geological Society of America, 1949 386 p 26 cm. $3 25 476

—— Volume 14 1949 By Marie Siegrist. New York The Geological Society of America, 1950. 375 p 26 cm. $3 00 477

—— Volume 15 By Marie Siegrist and Marcia Lakeman New York The Geological Society of America, 1951 429 p. 26 cm. $3 00 478

Note. (402) A standard annual guide to the geological literature of the world exclusive of the literature on the geology of North America, which is covered by United States Geological Survey's *Bibliography of North America*, described below. The arrangement is by author with a detailed subject index. Most of the entries are accompanied by a short annotation which indicates the scope or content of the article.

THOM EMMA MERTINS AND OTHERS

Bibliography of North American geology 1946–1949, by Emma Mertins Thom, Marjorie Hooker, and Ruth Reece Dunaven Washington D C. Government Printing Office, 1949–1952 4 vols. 23 cm. (United States. Geological Survey Bulletin 958 968 (o p.) 977 985) Paper $1 50 $0.55 $1 00 479

Note: (401*) Four more supplements to the *Bibliography of North American geology* the basic volumes of which, covering the years 1785–1945 were published as numbers 746, 747 823, 937 938, 949 and 952 of the same bulletin series. Paleontology petrology and mineralogy as well as geology are covered for the years indicated, and publications dealing with Panama, the Hawaiian Islands, and Guam, as well as with continental North America and its adjacent islands, are included.

GEOLOGY OF VARIOUS REGIONS

BUCHER, WALTER H

Geologic structure and orogenic history of Venezuela. Text to accompany the author's geologic tectonic map of Venezuela. New York The Geological Society of America, 1952 113 p illus. 26 cm. (Geological Society of America. Memoir 49) $1.50 480

Contents: Preface. Acknowledgments. Maracaibo basin. Venezuelan Andes. Falcon region. Western Caribbean mountains. Paraguana and Goajira peninsulas and the islands north of the Venezuelan coast. Eastern Caribbean mountains, including the northern and central range of Trinidad. Eastern Venezuelan basin and southern Trinidad. El Baul Swell, Apure basin, and the western part of the east Venezuelan basin. Guayana shield. References. Index.

Note A concise description of the structural geology of Venezuela, designed to be used with a map prepared by the author and drawn on the scale of 1 1,000,000. The bibliography lists the pertinent literature in English and Spanish.

EARDLEY ARMAND JOHN

Structural geology of North America. New York Harper & Brothers, 1951 624 p illus. (part col d) 22 cm (Harper's geoscience series Carey Croneis editor) $12.50 481

Contents (abridged) Structural terminology and classification. Stable interior of the continent. Paleozoic Cordilleran geosyncline. Appalachian Mountains systems. Eastern Triassic basins. Atlantic coastal plain. Ouachita, Marathon, and Coahuila systems. Wichita and ancestral Rockies systems and the Texas foreland. The late Paleozoic zones of faulting and cryptovolcanic structures. Mesozoic systems along the Pacific. Canadian and Montana Rockies. Idaho batholith. Central Rockies. Colorado and New Mexico Rockies. Rockies of northeastern Mexico. Coast ranges of the Pacific. Baja California and Sonora systems. Pacific submarine system. Arctic. Antillean-Caribbean region. Bibliography Index.

Note A compact but fairly detailed treatment of the structural evolution and present landscape features of the North American continent. The arrangement is by region, but even small areas are discussed if they are of special interest to the structural geologist. A series of 16 colored maps portrays the tectonic evolution of the continent from the Cambrian period to the late Cretaceous. The work is an outstanding contribution to geological literature. In the whole book there are 341 figures containing reproductions of about 750 maps and diagrams.

MATTHES FRANÇOIS EMILE

The incomparable valley a geologic interpretation of the Yosemite. Edited by Fritiof Fryxell. Berkeley University of California Press 1950 160 p. illus. 25 cm. $3 75 482

Contents. The Sierra Nevada. The Yosemite region and its high Sierra. Yosemite valley. The Yosemite through the ages. The sculpturing of the walls. The domes. The marks of time. The waterfalls. The little ice age of historic times.

Note. A fascinating exposition of the geology of the Yosemite valley. Though definitely written for non-geologists, even geologists who are about to spend their first vacation in the Yosemite valley will find it good reading. The lucid but compact text is supplemented by 50 reproductions of remarkable photographs. The author was long recognized as an authority on Sierra Nevada and Yosemite valley geography. This book was assembled after his death from his *Geologic history of the Yosemite valley* (1930) other professional publications, and unpublished notes made in preparation for this book.

MATTHES FRANÇOIS EMILE

Sequoia National Park, a geological album. Edited by Fritiof Fryxell. Berkeley University of California Press, 1950 136 p. illus. 25 cm. $3 75 483

Contents: The great Sierra block. Erosional features due to successive uplifts. Evidences of glacial action. Glacial canyons, cirques, and lake basins. Avalanche sculpture. Effects of frost action at high altitudes. Rock forms composed of massive granite. Effects of prolonged chemical weathering. Metamorphic rocks and their folded structure. Features due to solution in marble. Features due to volcanic action. Glossary

Note: In this interesting and unusual book the contents of three "Sequoia albums," originally prepared by the author for the use of the U. S. National Park Service, have been combined and the text edited so as to make it consistent and available to laymen. Most of the space is occupied by good reproductions of 114 excellent photographs, each of which depicts an interesting geologic feature. The text consists largely of short legends which accompany the illustrations and describe the geologic aspects. The region covered is outstanding for its scenery which has been produced by a wide range of geomorphic processes.

NEWELL, NORMAN DENNIS

Geology of the Lake Titicaca region Peru and Bolivia. New York The Geological Society of America, 1949 111 p. illus. 26 cm. (The Geological Society of America. Memoir 36) $5 00 484

Contents: Abstract. Introduction. Geography. Geologic structure. Stratigraphic summary Devonian rocks. Permian rocks. Jurassic rocks. Cretaceous rocks. Tertiary rocks. Glaciation of the Titicaca region. Igneous intrusive rocks. Geologic history Petroleum geology Works to which reference is made. Index.

Note: The region described in this monograph has complex geology which is distinct from adjoining Andean areas to the south and northwest. It contains the world's highest oil field. The book is based on previously published studies and on field study made by the author during twelve months spread over the years 1943 to 1948. The illustrations include photographs of thirty-six views of landscape features having geologic interest. The book is supplemented by two geological maps and two diagrams of the structural sections of the Lago Titicaca and Pirin areas.

RICHARDS, HORACE GARDINER

Geology of the coastal plain of North Carolina. Philadelphia The American Philosophical Society 1950 83 p illus. 30 cm. (Transactions American Philosophical Society New series—vol. 40 part 1) Paper $1.50 485

Contents: Introduction. Stratigraphy of the North Carolina coastal plain. Lower Cretaceous. Upper Cretaceous. Eocene. Oligocene. Miocene Pliocene Early Pleistocene. Late Pleistocene. Recent formations. "Carolina bays" Structure of North Carolina coastal plain. Economic geology Correlation of North Carolina coastal plain formations. Historical geology Bibliography Index.

Note. A comprehensive study based both on field work and study of the literature. The bibliography covers the literature published since 1912 and also some papers published before 1912 which were omitted from the bibliography in volume III of the North Carolina *Geological and economic survey* 1912. Most of the 16 figures are reproductions of photographs of landscape features or of fossil specimens.

STARK JOHN THOMAS AND OTHERS

Geology and origin of South Park, Colorado. By J T Stark, J H. Johnson C. H. Behre, jr W E. Powers, A. L. Howland Don B Gould, and others. New York The Geological Society of America, 1949 188 p illus. 26 cm. (Geological Society of America. Memoir 33) $3 75 486

Contents: Abstract. Introduction Physiographic features Pre-Cambrian rocks. Paleozoic and later sedimentary rocks. Tertiary sediments. Pleistocene sediments Post-pre-Cambrian igneous rocks. Structural geology Geologic history of South Park Appendix—representative sections Bibliography Index

Note. A physiographic, stratigraphic and tectonic study of South Park, "an extensive, strikingly flat basin in central Colorado, framed by strongly contrasting, rugged mountains, among the highest in the United States. It is based primarily on field work, however, considerable body of pertinent literature is listed in the bibliography. The work is an outstanding example of cooperative study of a small complex area.

WEAVER, CHARLES EDWIN

Geology of the Coast ranges immediately north of the San Francisco Bay region, California. New York The Geological Society of America, 1949 242 p. illus. 26 cm. (The Geological Society of America. Memoir 35) $6.50 487

Contents: Abstract. Introduction. Geography Stratigraphy Igneous rocks. Structure. Geologic history Economic geology Literature. Index.

Note: The geography systematic geology structure and economic deposits of an area of approximately 2,215,000 square miles in the Coast ranges of central California are described in this professional study The structure of the region is complex. Although it contains no producing oil wells several wells have been drilled and the log of one well drilled to 3 130 feet is included. The book has been written for use by professional geologists.

MINERALOGY AND PETROLOGY

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Problems of clay and laterite genesis. Symposium at annual meeting of The American Institute of Mining and Metallurgical Engineers, St. Louis, Missouri, February 19–22 1951 Sponsored by the Karl Eilers Memorial Fund. New York American Institute of Mining and Metallurgical Engineers, 1952 244 p. illus. 23 cm. $6.00 488

Contents: The genetic significance of mineralogy by A. F. Frederickson. Origin of the Arkansas bauxite deposits, by Mackenzie Gordon, jr and J. L. Tracey jr Examples of bauxite deposits illustrating variations in origin, by E. C. Harder. Investigations on cold precipitated hydrated ferric oxide and its origin in clays, by R. C. Mackenzie. Studies in the system alumina-silica-water by R. Roy and E. F Osborn. Mineralogy and origin of the Mercer fireclay of north-central Pennsylvania, by R. C. Bolger and J H. Weitz. The structure of hydrous aluminum oxides and hydroxides, by W O. Milligan and J. L. McAtee. Genesis of clay minerals, by E. A. Hauser Prospecting for useful clays in relation with their conditions of genesis, by G. Millot. Observations on the origin of Missouri high alumina clays, by W D Keller. New clay mineral evidence concerning the diagenesis of some Missouri fireclays, by J. F Burst. Interrelationships of structure and genesis in the kaolinite group, by T F Bates. The genesis and morphology of the alumina-rich laterite clays, by G D Sherman. Occurrence and exploitation of Georgia's kaolin deposits, by T L Kesler. Kaomont Bay clay deposit, by E. A Hauser Recent advances in clay mineral technology by R. E. Grim. Discussion. Name index. Subject index.

Note A collection of technical papers written by geologists, mineralogists, chemists, and specialists in soil science. The symposium (and the book) was designed to bring together the contributions and ideas of scientists from various fields. The papers were addressed to graduate scientists and engineers with theoretical or practical interests in clay minerals. Literature references are included.

BASTIN EDSON SUNDERLAND

Interpretation of ore textures. New York The Geological Society of America, 1950. 101 p. illus. 26 cm. (The Geological Society of America. Memoir 45) $1 75 489

Contents: Introduction. Textures of magmatic ores. Common textures indicative of deposition in open spaces. Principles of colloidal deposition. Colloidal ore textures Replacement textures Microscopic inclusions Paragenesis or order of deposition. Textures of sedimentary ore deposits. Ore textures formed by dynamometamorphism. References cited Explanation of plates. Index

Note The textures of ores when viewed under the microscope are correlated in this book with the genesis or methods of formation of ores. Only aspects such as would concern an ore analyst or practic

ing mineralogist are treated. In other words, there is little discussion of the physical chemistry principles underlying ore deposition. The author has included information from the literature and from his own work. The 18 plates show photographs or microphotographs of approximately 100 prepared ore specimens.

DANA, EDWARD SALISBURY

Minerals and how to study them revised by Cornelius S Hurlbut, jr Third edition. New York John Wiley & Sons Inc., 1949 323 p. illus. (part col'd) 22 cm. $4.25 490

Contents: Minerals and mineralogy. Some preliminary hints on how to study minerals. Crystals and crystal habits. Physical properties of minerals. Chemical properties of minerals. Use of the blowpipe. Description of the mineral species. On the determination of minerals. Appendices. Index.

Note: The first edition of this manual was published in 1895 and second edition, which embodied no major revisions, in 1906. Both were designed to acquaint the beginner in mineralogy with the basic methods of examining, identifying, and classifying the more common minerals. The present edition has the same purpose, but the work has been extensively revised, especially in those chapters devoted to descriptions of the various species of minerals. Here are given modern data on the habitat, physical properties, composition, and occurrence of each mineral, and the method of classification has been altered to conform with the new more commonly accepted chemical classification. Many new photographs of minerals, in their natural state and of their cross-sections, have been added.

DANA, JAMES DWIGHT

Dana's manual of mineralogy Sixteenth edition. Revised by Cornelius S. Hurlbut, jr New York John Wiley & Sons Inc., 1952 530 p illus. 24 cm. $6.00 491

Contents. Mineralogy Crystallography Physical mineralogy Chemical mineralogy Descriptive mineralogy Occurrence and association of minerals. Mineral uses. Determinative mineralogy Subject index. Mineral index.

Note. (1134) The first edition of this work was published in 1848; hence in its various editions it has spanned more than century. In it are covered both the general techniques of mineral identification and concise, systematic descriptions of individual minerals. The mineral descriptions cover the following points. chemical composition, crystallography, physical properties, tests, special diagnostic features, uses, and the origin of the name. The book is used both as an introductory text and as reference book in libraries and in the field. It has been substantially revised in this edition. The changes include adoption of modern crystallographic nomenclature, rewriting of the chapter on chemical mineralogy new introductory chapter, and descriptions of minerals not listed in previous editions.

FAIRBAIRN HAROLD WILLIAMS

Structural petrology of deformed rocks with supplementary chapters on statistical analysis by Felix Chayes. Cambridge, Mass. Addison Wesley Press Inc. 1949 Second edition. 344 p. illus. 24 cm. $12 50 492

Contents (abridged) Part I, Petrofabric and experimental facts Orientation patterns of minerals Orientation of composite elements. Relation of folds to grain orientation Experimental deformation. Reversible flow and rupture Irreversible flow and recrystallization. Part II, Interpretation and application Development of quartz orientation. Development of orientation in minerals other than quartz. Rotation and relative movement. Recrystallization in tectonites. Folds and folding Hypotheses of rock flowage. Tectonic transport. Remarks on foliation and lineation Part III, Methods and analytic procedure Field and hand specimen procedure. Microscope and X-ray procedure. Presentation of data. Statistical analysis of two-dimensional fabric diagrams. Statistical analyses of three-dimensional fabric diagrams. Bibliography Index.

Note. (1155b) A reference book for specialists in petrology and graduate students preparing to enter this field. It deals with the fundamental processes of the formation of rocks and certain geological structures. Its primary purpose is to enable the petrologist to analyze rocks and to study geological formations on the basis of crystal structures, behavior of rocks under pressure and related processes. Much new material has been added in this edition, including the two chapters on statistical methods applied to the analysis of petrofabrics.

FAIRBAIRN, HAROLD WILLIAMS, AND OTHERS

A cooperative investigation of precision and accuracy in chemical, spectrochemical and modal analysis of silicate rocks, by H. W Fairbairn and others an investigation by staff members of Department of Geology Massachusetts Institute of Technology, Cambridge, Mass (in collaboration with Office of Naval Research Washington, D C.) Geophysical Laboratory Carnegie Institution of Washington, Washington D C. Geochemistry and Petrology Branch, U S Geological Survey Washington D C. Washington, D C. Government Printing Office, 1951 71 p illus. 23 cm. (Contributions to geochemistry 1950–51 United States. Geological Survey Bulletin 980) Paper $0.35 493

Contents: Preparation and distribution of the samples, by H. W Fairbairn. Results of chemical analysis of samples of granite and diabase, by W G. Schlecht and R. E. Stevens. Spectrochemical analysis of major constituent elements in minerals and rocks, by W H. Dennen and others. Spectrochemical analyses of some of the rarer elements in the granite and diabase samples, by L. H. Ahrens. Modal analysis of the test rocks, by Felix Chayes. Summary of results, by H. W Fairbairn.

Note: The first part of this progress report is introductory to the bulletin as whole; the second, third, fourth, and fifth parts deal with particular aspects of analysis, and the sixth part summarizes. The authors express the hope that similar studies will follow in the future because the accuracy and precision of analytical methods used by petrologists, geochemists, and mineralogists are relative rather than absolute.

KRAUS EDWARD HENRY AND OTHERS

Mineralogy, an introduction to the study of minerals and crystals. By Edward Henry Kraus, Walter Fred Hunt and Lewis Stephen Ramsdell. Fourth edition. New York Mc Graw Hill Book Company Inc., 1951 664 p. illus 24 cm. $8 00 494

Contents: Introduction. Crystallography Cubic system. Hexagonal system. Tetragonal system. Orthorhombic system. Monoclinic system. Triclinic system. Compound crystals. Physical properties. Optical mineralogy Crystal structure and X-ray analysis. Chemical properties. Formation and occurrence of minerals. Qualitative blowpipe methods. Descriptive mineralogy Gemstones Classification of minerals according to elements. Glossary Tabular classification of the 32 classes of symmetry Tables for the determination of minerals. Selected bibliography Index.

Note. (1143) A college textbook that contains enough material to make it useful also as an elementary reference book in library and personal collections. The general aspects of the subject are discussed in the first fifteen chapters which account for approximately 240 pages of the book's length. The sixteenth chapter which contains concise descriptions of representative minerals is 164 pages long. The determinative tables of minerals are arranged so that they may be used by both amateurs and professionals. Both the text and the illustrations have been revised and extended in this edition. The bibliography is new feature.

KRUMBEIN WILLIAM CHRISTIAN AND LAURENCE LOUIS SLOSS

Stratigraphy and sedimentation. San Francisco W H. Freeman and Company, 1951 497 p. illus. 25 cm. $5.00 495

Contents: Introduction. The stratigraphic column. Stratigraphic procedures. Properties of sedimentary rocks. Classification and description of sedimentary rocks. Sedimentary processes. Sedimentary environments. Stratigraphic paleontology Sedimentary facies. Principles of correlation. Tectonic framework of sedimentation. Sedimentary tectonics. Stratigraphic maps. Paleogeography Bibliography. Index.

Note: A substantial treatment, in the form of an upperclass college textbook, of two related fields of geology that do not get full-scale treatment in general texts. The order and relation of strata and the study of sedimentary rocks are important in applied geology such as petroleum geology as well as in numerous areas of historical geology. Current techniques such as the logging of samples from oil wells as they are drilled are discussed, but most of the book is devoted to the fundamental knowledge. The text is supplemented by a long bibliography that should be useful to graduate geologists. There is a generous number of illustrations, and the format of the book is outstanding.

PALACHE CHARLES AND OTHERS

The system of mineralogy of James Dwight Dana and Edward Salisbury Dana, Yale University 1837–1892 Seventh edition entirely rewritten and greatly enlarged by Charles Palache, the late Harry Berman and Clifford Frondel. Volume II. New York John Wiley & Sons, Inc., 1951 1124 p illus. 24 cm $15.00 496

Contents (abridged): Halides. Carbonates. Nitrates. Iodates. Borates. Sulfates. Selenates and tellurates. Chromates. Phosphates, arsenates, and vanadates. Antimonates. Vanadium oxysalts. Molybdates and tungstates. Organic compounds. Index.

Note: (1137) In the present edition this classical reference work is being completely reorganized and rewritten. The classification is a new one based on crystal chemistry. Data from X-ray investigations are being included for the first time. Other new features include a new elastic series of classification numbers for species, revision of specific gravities, and annotated literature references. The mineral groups named above are covered in volume II. A third volume is in preparation.

PETTIJOHN, FRANCIS JOHN

Sedimentary rocks. New York Harper & Brothers, 1949 526 p. illus. 24 cm. (Harper's geoscience series, Carey Croneis, editor) $7.50. 497

Contents: Introduction. Textures. Composition. Structures. Color. Classification. Conglomerates and breccias. Sandstones. Shales and argillites. Limestones and dolomites. Nonclastic sediments. Weathering. Transportation. Deposition. Lithification and diagenesis. Author index. Subject index.

Note: A relatively comprehensive treatment, even though it was intended by the author as an elementary work. The processes of sedimentation are covered with relative brevity but their products *are covered thoroughly and much data—particularly on chemical composition*—are included which has not been published previously in book form. Emphasis is on common gravels and rocks rather than on rocks that are rarely encountered. There are 131 figures and 39 plates. Many of the latter are reproductions of microphotographs. There are many footnote references to the modern literature but no formal bibliography.

TURNER, FRANCIS JOHN AND JEAN VERHOOGEN

Igneous and metamorphic petrology New York McGraw Hill Book Company Inc. 1951 602 p. illus. 24 cm. $9.00 498

Contents (abridged) Principles of chemical equilibrium applied to rocks. Characteristics and classification of igneous rocks. Variation in associated igneous rocks. Crystallization of igneous minerals from silicate melts. Crystallization of basaltic and granitic magmas in the light of experimental data. The oceanic olivine-basalt trachyte volcanic association. Volcanic associations of orogenic regions. Basic and ultrabasic plutonic associations. The granite granodiorite plutonic association. Pegmatites, lamprophyres, nepheline syenites. Environment, origin, and evolution of magmas. Principles governing chemical adjustment of solid rocks to metamorphic conditions. Correlation of mineral assemblages with specific conditions of metamorphism. Characteristics of individual metamorphic facies. Special features of fabrics of deformed rocks. Metamorphism in relation to magmas and to orogeny. Index.

Note: An advanced treatise of interest to graduate students preparing for work in petrology and to graduates already at work in the field. In it the modern knowledge of igneous and metamorphic petrology is presented from the physicochemical standpoint. The phase rule and other principles of chemical equilibria applicable to the formation of rocks at high temperatures and under moderate temperatures are summarized in the second chapter. In the remainder of the book groups of rocks are discussed from the viewpoint of their genesis, the genetic processes being viewed against the background of the second chapter as multi-component chemical systems. There is no systematic bibliography but selected literature is cited in footnotes.

TWENHOFEL WILLIAM HENRY

Principles of sedimentation. Second edition. New York McGraw Hill Book Company Inc., 1950 674 p illus. 23 cm. $7.50 499

Contents (abridged) The environmental factors. Classification *and consideration of environments.* Origin of inorganic sediments. Interrelations of organisms and sediments. Transportation and deposition of sediments. Classification of sediments, sedimentary rocks, and minerals of sediments. The clastic sediments. Sediments of chemical deposition. The carbonate sediments. Siliceous, ferruginous and manganese sediments. The carbonaceous sediments. Evaporites. Phosphatic sediments. Structural features of sedimentary origin. Textures and colors of sediments. Index.

Note: (1165) A college textbook which also has a fair amount of reference value. It provides an introductory survey of the current knowledge of both the principles of sedimentation and the soils and rocks produced by sedimentation processes. The treatment assumes that the reader will have had some previous work in geology. Throughout the book there are frequent lists of pertinent literature for the benefit of the student or practicing geologist who wishes to read further on a particular topic. Substantial additions, both in text and illustrative matter have been made in the present edition.

WAHLSTROM ERNEST EUGENE

Introduction to theoretical igneous petrology New York John Wiley & Sons, Inc., 1950 365 p 22 cm. $6.50 500

Contents: Introduction. Heterogeneous equilibrium and the phase rule. Equilibrium in silicate systems. Igneous minerals. The crust and the interior of the earth. Magmas—source and nature. The ascent and emplacement of magmas. Crystallization of magmas. Igneous differentiation. Assimilation and syntexis. Granitization. Late magmatic and postmagmatic processes. Origin of rock types. Classification of igneous rocks. Appendix: Physical-chemical concepts useful to petrologists. Index.

Note A short treatment written mainly for students of geology who do not plan to specialize in this branch of geology but nevertheless desire some knowledge of it. A fair acquaintance with basic geological terms and concepts has been assumed, and the reader needs also to be familiar with the concepts and terms of basic physics, chemistry and mathematics. Phase diagrams and other devices of physical chemistry are used freely. The emphasis is on the physicochemical processes that produced igneous rocks rather than on descriptions of the rocks themselves.

WINCHELL, ALEXANDER NEWTON

Elements of optical mineralogy: an introduction to microscopic petrography Part II—Descriptions of minerals with special reference to their optical and microscopic characters. Fourth edition. By Alexander N Winchell with collaboration of Horace Winchell. New York John Wiley & Sons Inc. 1951 551 p. illus. 24 cm. $12.50 501

Contents (abridged) Introduction. Halides. Sulfides. Oxides. Carbonates, etc. Other mineral carbon compounds. Borates. Sulfates, etc. Phosphates, etc. Silicates. Index.

Note: (1181) A standard book for the use of all who are concerned with the identification of minerals. Essentially it is a descriptive catalogue of those minerals which can be identified by optical means. In general for each mineral listed, information is given on the following points: composition, crystalline structure, physical characteristics, optical properties, occurrence, and special characteristics that may be used to distinguish it from other closely related minerals. The descriptions are accompanied by citations of the pertinent literature. There is much new material in this edition, including new literature citations, new data derived from X-ray studies of minerals, and some significant changes in classification.

DYNAMIC AND STRUCTURAL GEOLOGY

GEOLOGICAL SOCIETY OF AMERICA

Sedimentary facies in geologic history (Conference at meeting of The Geological Society of America held in New York New York, November 11 1948) Chester R. Longwell, chairman New York Geological Society of America, 1950 171 p illus. 26 cm. (Its Memoir 39) $1 75 502

Contents. Principal addresses: Meaning of facies, by R. C. Moore. Facies changes in the Colorado plateau, by E. D. McKee. Sedimentary facies and geologic structures in the Basin and Range province, by S. W. Muller. Sedimentary facies and associated diastrophism in the Upper Cretaceous of central and eastern Utah, by E. M. Spieker. Oligocene faunas, facies, and formations, by H. E. Wood, 2nd. Integrated facies analysis, by L. L. Sloss, W. C. Krumbein, and E. C. Dapples. Discussion.

Note. A series of papers written for a symposium organized similarly to the Society's symposium on the origin of granite have been collected in this volume, together with transcripts of the discussion at the meeting. Various current views on the classification of sedimentary rocks and the interpretation of their history are presented. The papers are supplemented by lists of references, but the book contains no index.

GOLDMAN MARCUS ISAAC

Deformation, metamorphism, and mineralization in gypsum-anhydrite cap rock, Sulphur Salt Dome, Louisiana. New York The Geological Society of America 1952 169 p illus. 26 cm. (Geological Society of America. Memoir 50) $3 00 503

Contents: Abstract. Introduction. Gypsification. Stress effects in the cap rock. Recrystallization of anhydrite cap rock. Pressure solution between individual grains. Genetic relations of recrystallization and pressure solution. Rim gypsification. Regenerated anhydrite. Mineralization and rarer minerals. References cited Index

Note: A detailed study based on the examination of a single, complete two-inch diamond-drill core from the Union Sulphur Company's well no. 194 in the Sulphur Salt Dome, Louisiana. The core represents a complete section through the cap rock. The author's findings and conclusions are compared with the conclusions of others on the origin of cap rocks of the kind studied. The discussion is supplemented by 64 plates containing reproductions of photographs of polished sections and other forms of this core.

GUTENBERG BENO editor

Internal constitution of the earth. Second edition. New York Dover Publications Inc., 1951 439 p illus 24 cm. $6.00 504

Contents: Introduction, by B. Gutenberg. The origin of the solar system, by H. Jeffreys. Relevant facts and inferences from field geology by R. A. Daly Elastic properties of materials of the earth's crust, by L. H. Adams. The chemical and petrological nature of the earth's crust, by H. S Washington and L. H Adams. Observed temperatures in the earth's crust, by C. E Van Orstrand. The cooling of the earth and the temperature in its interior by B. Gutenberg. Forces in the earth, by B. Gutenberg Hypotheses on the development of the earth, by B. Gutenberg. Evidence on the interior of the earth derived from seismic sources, by J B. Macelwane. Evidence from deep-focus earthquakes, by B. Gutenberg and C. F Richter. Structure of the crust—continents and oceans, by B Gutenberg and C. F Richter Density gravity pressure and ellipticity in the interior of the earth, by W D Lambert and F W Darling. The elastic constants in the interior of the earth, by B Gutenberg. Strain characteristics of the earth's interior by H. Benioff and B. Gutenberg. Summary by B. Gutenberg. Appendix. Author index. Subject index.

Note: A basic work on geophysics which was published originally as vol. 7 of the National Research Council's *Physics of the earth*, Washington, D. C., 1939. In preparing this edition—the manuscript of which was apparently completed in 1949—all but two of the chapters have been expanded or extensively rewritten.

KAY, MARSHALL

North American geosynclines. New York The Geological Society of America, 1951 143 p. illus. 26 cm. (The Geological Society of America. Memoir 48) $2 00 505

Contents. Abstract. Introduction. Hedreocraton and miogeosynclines. Geosynclines within the hedreocraton. Paleogeography of the continental borders. Stratigraphy of the continental borders. Interpretation of the stratigraphy of eugeosynclinal belts. Parageosynclines. Geosynclines and sedimentation. Growth of continents. Summary and conclusions. Classification and definitions. References cited. Index.

Note: This comprehensive monograph of the geosynclines of the North American continent is a technical study designed for use by professional geologists. There are 20 illustrations in the text and 18 folded plates, most of which are maps. There is also a comprehensive bibliography

KING PHILIP BURKE

The tectonics of middle North America, middle North America east of the Cordilleran system. Princeton Princeton University Press 1951 203 p illus. 27 cm. $3 75 506

Contents (abridged) Reference maps. Central stable region. Laurentian shield. Interior lowlands. Paleozoic structures southeast and south of the central stable region; Newfoundland. Northern Appalachians. Central and southern Appalachians. Structures west of the Mississippi River The coastal plains. Sources of figures. Index.

Note. A synthesis of the currently valid information on the structural geology of the region named in the title. It is presented in the technical terminology and is intended for such readers as college students of geology and professional geologists. It supersedes the author' *Outline of the structural geology of the United States*, published in 1932. Most of the material is descriptive, and the text is supplemented by original diagrams and extensive bibliographies. The author has been associated with the United States Geological Survey for many years.

MILLER, WILLIAM JOHN

An introduction to historical geology with special reference to North America. Sixth edition. New York D Van Nostrand Company Inc. 1952 555 p illus. 23 cm. $5 50 507

Contents Introduction. Geologic time. Fossils. Organic evolution. Rock formations. Relations of continents and ocean basins. Origin and pre-geologic history of the earth The earth's interior. The Archeozoic era. The Proterozoic era. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Mesozoic life. The Cenozoic era (excluding Pleistocene glaciation) Pleistocene glaciation. Cenozoic life. Appendix. Index.

Note: (1084) A widely used college textbook. It is designed for use in first courses in the subject offered to students who have had an introductory course in general geology. The fifth edition was published in 1941. In preparing this edition substantial changes were made in both the text and illustrations. There are now 404 figures including a generous number of reproductions of photographs.

MILLER, WILLIAM JOHN

An introduction to physical geology with special reference to North America. Fifth edition. New York D Van Nostrand Company Inc., 1949 482 p illus. 24 cm. $5.00 508

Contents: Introduction. Materials of the earth's crust—minerals—rocks. Instability of the earth's crust—diastrophism. Structure of the earth's crust. Volcanoes. Rock weathering. The work of streams. Glaciers and their work. The work of the wind. The sea and its work. Subsurface water and its work. Mountains, plateaus, and plains. Lakes. Economic geology. Appendices: Some common and useful minerals. Selected references on physical geology. Index.

Note (1085) In its fifth edition, this standard work remains one of the most readable of college textbooks in geology. There has been some rearrangement of material and considerable amount of revision. Most statistics have been brought up to date, and various classified tables have been expanded or corrected.

MONNETT, VICTOR E. AND HOWARD E. BROWN

The principles of physical geology New York Ginn and Company 1950 450 p. illus. 24 cm. $4.50 509

Contents: Geology its meaning and methods. The earth, its materials and processes. Weathering. Transportation of weathered material as result of gra dation. The work of running water. Ground water. Lakes and swamps. The atmosphere. Glaciers and their work. The ocean. Deformation of the rocks. Mountains. Volcanism. Development of landscapes. Minerals. Rocks. The earth's mineral wealth. Geology the servant and ally of man. Appendix: Basic facts about the earth. Important rock-forming minerals. Common rocks. Topographic maps (introduction and key). Index.

Note: An elementary work addressed primarily to college students. However, it is written and illustrated in manner that makes it available to any literate person who is interested in landscape features and the processes that produced them. The style is lucid, and even when dealing with theoretical topics, the authors usually express themselves in concrete terms that are readily comprehensible by the average educated reader. Most of the illustrations are reproductions of excellent photographs. A special point is made of the value of large-scale topographic maps in the study of landscape features.

NEVIN CHARLES MERRICK

Principles of structural geology Fourth edition. New York John Wiley & Sons Inc., 1949 410 p. illus. 24 cm. $6.00 510

Contents: Stress and strain relations. Physical properties of rocks. Flexures. Faults. Joints. Cleavage. Structures associated with igneous intrusion. Structures in unconsolidated sediments. Reflection of rock structure in the topography. Some facts, inferences, and hypotheses regarding the earth. Continents and ocean basins. Mountain systems. Laboratory exercises. Index.

Note. (1143) A standard college textbook which is noted for its concise but lucid discussions of the deformations of the earth that form the subject matter of dynamic and structural geology. Because it is brief and because the language is semi-technical, the book is also suitable for general readers who are more than superficially interested in the subject. The most prominent change in the present edition is the addition of the section of laboratory exercises near the end of the book, but the whole work has been revised and the type has been reset.

RAMBERG HANS

The origin of metamorphic and metasomatic rocks a treatise on recrystallization and replacement in the earth s crust. Chicago The University of Chicago Press, 1952 317 p. illus. 24 cm. $10 00 511

Contents: Definitions. Natural boundary between metamorphism and magmatism. Thermodynamics of metamorphic processes. Equilibrium diagrams of metamorphic minerals. Chemical kinetics of metamorphism. The kinetics of deformation of rocks and minerals. Stress-minimum minerals. Brief survey on structural properties of metamorphic rocks. The mineral facies of metamorphic rocks. Metasomatism. The mechanisms of metasomatic transfer of matter through rocks. Metamorphic differentiation. The principles of metamorphic differentiation and the question of nodule formation during metamorphism. Contact metamorphism. Metasomatism in practically unmetamorphosed and low-grade sediments. Metamorphism in regionally metamorphosed complexes. Temperature in regional metamorphism. Appendix: Chemical bonds in crystals—a clue to predicting relative stability of minerals and cation distribution among them. References. Author index. Subject index.

Note An important addition to petrologic literature in which the petrogenesis of the metamorphic and metasomatic rocks is studied from the viewpoint of thermodynamics and crystal chemistry. It represents the great advances in the understanding of metamorphism which have been made in recent years, advances in which the author himself has taken considerable part. The first third is devoted to discussions of the physico-chemical processes, the remainder to specific series of petrogenetic events and to discussions of the genesis of specific varieties of rocks. Readers need fairly substantial knowledge of basic thermodynamics, physical chemistry, and petrology. The work is of interest to graduate students of petrology and graduate specialists in this field. The author is Associate Professor of Petrology in the University of Chicago.

TRASK, PARKER DAVIES editor

Applied sedimentation. Prepared under direction of Committee on Symposium on Sedimentation, Division of Geology and Geography National Research Council Washington, D C. New York John Wiley & Sons, Inc. 1950 707 p illus. 24 cm. $6 75 512

Contents (abridged) Part I, Basic principles of sedimentation: Dynamics of sedimentation, by P D Trask. Origin of soils, by Hans Jenny. Geophysical problems in applied sedimentation, by R. F Beers. Principles of soil mechanics as viewed by geologist, by C. A. Kaye. Sedimentation and ground water, by F C. Foley. Part II, Engineering problems involving strength of sediments: Foundation problems of sedimentary rocks, by S. S. Philbrick. Earth dams, by T A. Middlebrooks. Geologic aspects of soft ground tunneling, by Karl Terzaghi. Sedimentary geology of the alluvial valley of the lower Mississippi River and its influence on foundation problems, by W J. Turnbull and others. Part III, Applications of processes of sedimentation: Relation of landslides to sedimentary features, by D J. Varnes. Permafrost, by R. F Black. Geology in shore-control problems, by M. A. Mason. Stream-channel control, by S. C. Happ. Sedimentation in reservoirs, by A. S. Fry. Problems of irrigation canals, by A. R. Golzé. Effects of soil conservation, by C. B. Brown. Part IV Applications involving nature of constituents: Influence of sedimentation on concrete aggregate, by Roger Rhoades. Application of studies of the composition of clays in the field of ceramics, by R. E. Grim. Foundry sands, by H. Ries. Part Economic mineral deposits: The field of economic geology of sedimentary mineral deposits, by V E. McKelvey. Sedimentary iron deposits, by S. A. Tyler. Geochemical prospecting for ores, by H. E. Hawkes. Part VI, Petroleum geology problems: Subsurface techniques, by D. A. Busch. Porosity permeability and capillary properties of petroleum reservoirs, by C. D. Russell and P A. Dickey. Carbonate porosity and permeability by W C. Imbt. Part VII, Military applications: Sedimentary materials in military geology by F C. Whitmore, Jr. Applications of sedimentation to naval problems, by R. D. Russell. Author index. Subject index.

Note: Mainly survey of the aspects of sedimentation, sedimentary rocks, and other sedimentary deposits which are of practical concern to engineers. The typical chapter is essentially an outline of high spots, coupled with good list of references for those who wish to read further. An unusual feature is the inclusion in most chapters of few paragraphs on research which is still needed.

VOLCANOLOGY AND SEISMOLOGY

GUTENBERG BENO AND C. F RICHTER

Seismicity of the earth and associated phenomena. Princeton Princeton University Press 1949 273 p. illus. 28 cm. $10 00 513

Contents (abridged) Materials used. Methods used. Classification of shocks. Maps. Frequency and energy of earthquakes. Structure of the earth. The circum-Pacific belt. The Alpide belt. Non-Alpide Asia—eastern zone. Oceanic seismic belts. Rift zones. Seismicity compared to stable masses. Minor seismic areas. Minor seismicity. Stable masses. Tsunamis (seismic sea waves). Mechanism. Summary. References. Tables. Index.

Note A scientific study and compilation of data pertaining to the geography and geological character of the areas of the earth where seismic activity occurs and to the relative seismicity of these areas. The tables which are detailed presentations of observations of earthquake shocks occupy 149 of the book's pages. They are preceded by short narrative discussions of such topics as the methods used in the study, the frequency and energy of earthquakes, and of the geography and geology of active regions. The work supersedes two papers by the same authors that appeared in 1941 and 1945 in the publications of the Geological Society of America.

LEET LEWIS DON

Earth waves. Cambridge, Mass. Harvard University Press and New York John Wiley & Sons Inc. 1950 122 p 22 cm. $3.00. 514

Contents. The measurement of earth waves. Observed types of earth waves. Translation of earth waves. Microseisms. Index.

Note. Although earthquake waves are discussed along with other types of waves, this is not primarily book on earthquake phenomena. Instead it deals broadly with the subject of waves that are transmitted through the earth. Thus it has bearing on geology

geophysical prospecting, meteorology (for storms generate earth waves) and even the engineering of buildings. The book is intended not for lay readers but for persons who have a fair knowledge of physics and college mathematics. For them it is an introductory work.

NEUMANN, FRANK
Principles underlying the interpretation of seismograms. Washington D C. Government Printing Office, 1951 41 p illus 25 cm. (United States Coast and Geodetic Survey Special publication no 254) Paper, $1 00 515

Contents: Introduction. Seismic waves and earth structure. Nature of seismic waves. Effect of earth structure on seismic waves. Elementary wave types. Dependent wave types. Response of seismographs to seismic waves: Operating characteristics of seismographs. Motion of direct-recording seismograph pendulum under the influence of steady state vibrations. Motion of galvanometric recording systems under the influence of steady state vibrations. Travel-time tables and charts. Travel-time tables and charts for long epicentral distances. Travel-times for short epicentral distances. Interpretation of seismograms: Artificial and seismic phenomena common to all types of pendulum seismographs. Characteristics of various phases on the seismogram. Identification of phases and determination of epicentral distance and origin time. Interpretation of seismograms when distance and time of origin are known. Computation of ground amplitude. Direction of ground vibration. Miscellaneous: Operational problems affecting the interpretation of seismograms. Earthquake intensity and earthquake magnitude. Determination of instrumental magnitude. Seismological bulletins. Nomenclature used in instrumental reports. Examples of seismogram interpretation.

Note: A handbook for amateur seismologists, seismograph station personnel, etc. Instruments and records for short-period waves in earthquake vibrations are discussed as well as those for intermediate-period waves.

PERRET, FRANK ALVORD
Volcanological observations Washington D C. Carnegie Institution of Washington, 1950 162 p illus 29 cm. (Carnegie Institution of Washington Publication 549) Paper $5 00 Cloth, $5 50 516

Contents: The greater solid constructions. The volcanic liquid. The gaseous element. Electric and atmospheric phenomena. Volcanic vegetation. Volcanic instruments. Gravitational and volcano-seismic phenomena. Experimentation—field and laboratory. Diagnosis and prediction. Index.

Note. A well-written summary of a lifetime of observations of volcanic activity most of which were made in the field during volcanic eruptions. The author describes selected events as he saw them and draws conclusions. The book is written in a style that makes it available to mature lay readers, and its content is substantial enough to attract professional volcanologists. The 117 illustrations include reproductions of many excellent photographs.

PALEONTOLOGY

AMSDEN THOMAS WILLIAM
Stratigraphy and paleontology of the Brownsport formation (Silurian) of western Tennessee. New Haven Yale University Press 1949 138 p illus. 27 cm. (Peabody Museum of Natural History Yale University Bulletin 5) $5.00 517

Contents: Introduction. Summary of previous investigations. Stratigraphy: General discussion—underlying Dixon formation—overlying Decatur formation—Brownsport formation. Stratigraphic and geographic distribution of the fauna. Correlation. Catalogue of localities and of fossil collections. Description of genera and species. Bibliography. Index.

Note. The Brownsport formation is noted as a source of Silurian fossils; hence this work has considerable paleontological interest. It is based largely on field work and represents a detailed study of both stratigraphy and paleontology. The descriptions of genera and species of fossils are presented in the traditional style and include literature references, morphological descriptions, and precise information on distribution. The illustrations include several stratigraphic maps and thirty-four plates of reproductions of fossils.

AXELROD DANIEL I.
Studies in late Tertiary paleobotany Washington D C Carnegie Institution of Washington 1950 323 p illus. 25 cm. (Contributions to paleontology Publication 590) Paper $3.25 518

Contents: Classification of the Madro-Tertiary flora. A Pliocene florule from Napa, California. Further studies of the Mount Eden flora, southern California. The Anaverde flora of southern California. The Pico Gorge flora of southern California. Evolution of desert vegetation in western North America. Appendix: Systematic revision of fossil plants. Index.

Note. A collection of technical studies titled as given above. The final and longest paper is a critical summary of the present knowledge of the evolution of the contemporary desert vegetation of western North America. In this paper the author distinguishes floras and concludes that "present day desert plants have apparently been derived from species represented in the major Tertiary flora which occupied the regions now deserts.

BASSLER, RAY SMITH
Faunal lists and descriptions of Paleozoic corals New York The Geological Society of America, 1950 315 p illus. 25 cm. (The Geological Society of America. Memoir 44) $3.50 519

Contents: Part I, Lists of Paleozoic coral faunas. Introduction. Ordovician of Europe and Asia. Ordovician of North America. Table of Ordovician stages. Silurian of Europe. Silurian of Asia and Australia. Silurian of North America. Devonian faunas of Europe. Devonian of Asia, Australia, and Africa. Devonian of North America and South America. Lower Carboniferous of Great Britain and Ireland. Lower Carboniferous of Europe. Lower Carboniferous of Asia, Africa, and Australia. Mississippian of North and South America. Upper Carboniferous of Europe. Upper Carboniferous of Asia and Africa. Pennsylvanian of North America. Upper Carboniferous or lower Permian of Europe and Asia. Permian of Europe, Asia, and Australia. Permian of North America. Part II, Descriptions of Ordovician tetracorals. Introduction. Family Favistellidae. Family Columnariidae. Family Tetradiidae. Explanation of plates.

Note. The first part of this book on Paleozoic corals presents faunal lists of the Paleozoic corals of the world arranged in stratigraphic order. Each citation includes the present accepted generic and specific term, author and the date, followed by the type, other localities and geologic formations, followed by similar data concerning synonyms (if any) and additional data where available. The second part describes the genera and species of Tetracoralla of the Ordovician. These early corals, which have received relatively little attention by students, exhibit the evolutionary trends of the corals in general. Illustrations of most of the species are given in the plates.

CAMP CHARLES LEWIS, AND OTHERS
Bibliography of fossil vertebrates, 1939–1943 By C. L. Camp S. P Welles, and Morton Green. New York The Geological Society of America, 1949 371 p. 26 cm. (The Geological Society of America. Memoir 37) $4.50 520

Contents: Preface. List of serials and abbreviations. Supplementary list of serials. Author catalogue. Subject index. Systematic index. Synopsis of classification.

Note (1262 1263) The third in a series of bibliographies of the world literature. In addition to writings on fossils, published materials on artifacts and other remains of man also are listed. Locations in certain libraries in the United States of America are indicated for the serial publications.

CHANEY RALPH WORKS
A revision of fossil Sequoia and Taxodium in western North America based on the recent discovery of Metasequoia. Philadelphia The

American Philosophical Society, 1951 172–262 p. illus. 30 cm. (Transactions, American Philosophical Society New series—vol. 40 part 3) Paper $1.50 521

Contents (abridged): Introduction. Generic characters used for distinguishing fossil specimens of Sequoia, Metasequoia, and Taxodium. History of the study of Sequoia and Taxodium from the Cretaceous and Tertiary of the northern hemisphere. The recognizable fossil species of Metasequoia, Sequoia, and Taxodium in western North America. References.

Note: A monograph in which are presented both a revised classification based on original studies of specimens in museums, and a history of the classification and related studies of these genera. The bibliography is comprehensive. There are 12 plates, all but one of which contain reproductions of photographs of a number of specimens.

CUSHMAN, JOSEPH AUGUSTINE

Paleocene Foraminifera of the Gulf Coastal region of the United States and adjacent areas. Descriptions and illustrations of smaller Foraminifera from the Gulf Coastal region, Cuba, Central America, Haiti, and Trinidad. Washington Government Printing Office, 1951 75 p. illus. 29 cm. (United States. Geological Survey Professional paper 232) Paper $1 75 522

Contents: Introduction. List of localities. Systematic descriptions. Rhizamminidae. Ammodiscidae. Lituolidae. Textulariidae. Verneuilinidae. Valvulinidae. Miliolidae. Ophthalmidiidae. Trochamminidae. Placopsilinidae. Lagenidae. Polymorphinidae. Nonionidae. Heterohelicidae. Buliminidae. Ellipsoidinidae. Rotaliidae. Amphisteginidae. Cassidulinidae. Chilostomellidae. Globigerinidae. Globorotaliidae. Anomalinidae. Index. Plates.

Note: Describes and illustrates the Foraminifera from the Paleocene of the Gulf Coastal Plain, including parts of Texas, Arkansas, Mississippi, Alabama, and Tennessee, and related areas of Trinidad, Cuba, Haiti, and Central America. About 210 species and varieties are recorded and nearly all are illustrated on the 24 photographic plates. Many of the species are considered excellent index fossils for study of the Paleocene.

GEOLOGICAL SOCIETY OF AMERICA

1940 E. W Scripps cruise to the Gulf of California Part I, Geology of islands and neighboring land areas by Charles A. Anderson. Part II, Megascopic paleontology and marine stratigraphy by J Wyatt Durham. Part III Submarine topography of the Gulf of California, by Francis P Shepard. Part IV Report on the Pleistocene and Pliocene Foraminifera, by M L. Natland. Part V Sedimentation and oceanography—survey of field observations by Roger Revelle. New York The Geological Society of America, 1950 362 p illus. 26 cm. (The Geological Society of America. Memoir 43) $6.50 523

Note: This memoir contains five scientific reports on the results of a cruise sponsored by the Geological Society of America and the Scripps Institution of Oceanography in the fall of 1940 in the schooner *E. W. Scripps*. The object of the cruise was to investigate the recent geologic history, the bottom topography and sediments, and the nature of the marine environment of the Gulf of California.

LAMOTTE ROBERT SMITH

Catalogue of the Cenozoic plants of North America through 1950 New York The Geological Society of America, 1952 381 p 26 cm. (The Geological Society of America. Memoir 51) $5 50 524

Contents: Introduction. Bibliography. Catalogued papers. Palynology. Bacteria. Marine and fresh water algae. Diatomaceae. Catalogue. Biologic classification of genera. Index of families and higher categories.

Note. The main part of this work is a carefully compiled catalogue of fossil plants of the Cenozoic period which have been identified in North America and reported in the published literature. The catalogue is arranged alphabetically by botanical name. In general for each plant the information given includes the name of the scientist who discovered the plant, the year it was reported, citation of the paper in which it was reported, citations of additional papers that deal with genus from a paleobotanical viewpoint, the formation, locality and age. Preceding the catalogue of plants is a bibliography of papers on paleobotany classified under the headings noted above.

MILLER, ARTHUR K., AND WALTER YOUNGQUIST

American Permian nautiloids. New York The Geological Society of America, 1949 218 p. illus. 26 cm. (The Geological Society of America. Memoir 41) $3.60. 525

Contents: Abstract. Introduction and acknowledgments. Previous work. Occurrence. Classification of Permian nautiloids. Systematic paleontology. Addendum. Bibliography. Explanation of plates. Index.

Note: A systematic catalogue of a group of fossils that had not been comprehensively described before the appearance of this work. It is based on a study of the specimens in the United States National Museum, in other museums, and in the possession of geologists associated with universities and oil companies. The descriptive material includes literature references, morphological data, documents of occurrences, and identification of a museum (or other) source of specimens. There are 57 plates each bearing reproduction of one to ten or more photographs of specimens.

MOORE, RAYMOND CECIL AND OTHERS

Invertebrate fossils. By Raymond C. Moore, Cecil G Lalicker and Alfred G Fischer New York McGraw Hill Book Company Inc. 1952 766 p. illus. 24 cm. $12 00 526

Contents: The nature of fossils. Foraminifera and radiolaria. Sponges and spongelike fossils. Coelenterates. Bryozoans. Brachiopods. Mollusks. Gastropods. Cephalopods. Pelecypods. Annelids and other worms. Arthropods. Trilobites. Ostracodes and other crustaceans. Chelicerates, myriapods, and insects. Echinoderms. Primitive attached echinoderms. Crinoids. Echinozoids. Starfishes. Echinoids. Graptolites and pterobranchs. Conodonts. Index.

Note: Although this book is frankly a college text for use in first courses in paleontology it has a number of features which make it useful outside of formal classes. Its inclusive scope is indicated by the chapter titles. In general the following points are covered for each of the main zoological groups: anatomy and physiology, geologic importance, geologic history, zoological classification, functions and development of shells, modes of life, reproduction, and ontogeny. Also, there are adequately detailed descriptions of the main subgroups. The expository matter is supplemented by glossaries and abundant illustrations and literature references. The index is full. The authors are members of the faculty of the University of Kansas.

OLSON, EVERETT CLAIRE

Diplocaulus a study in growth and variation. Chicago Chicago Natural History Museum 1951 154 p illus. 24 cm. (Fieldiana Geology Vol. 11 no. 2) Paper $1 75 527

Contents: Introduction. Problems and methods. Review of Diplocaulus. Species and genera. Growth and variation. References.

Note: A study by quantitative methods of *Diplocaulus*, Permian amphibian. Forty seven skulls and partial skulls were measured and the results are represented in tables and graphs. Various statistical methods used in analyzing the data are illustrated. The chief purpose of the study was to determine whether quantitative methods are of much applicability in paleontology. The author is Associate Professor of Vertebrate Paleontology in the University of Chicago.

PETRUNKEVITCH ALEXANDER

A study of the structure, classification and relationships of the Palaeozoic Arachnida

based on the collections of the British Museum. New Haven, Connecticut Connecticut Academy of Arts and Sciences 1949 246 p. illus. 24 cm. (Transactions of the Connecticut Academy of Arts and Sciences. Volume 37 pages 69–315 January 1949) $7 70 528

Contents (abridged) Introduction. Relationships and evolutionary trends. Photography Classification—Class Arachnida—subclass Latigastra—subclass Stethostomata—subclass Soluta—subclass Caulogastra. General conclusions. Summary References. Plates. Index to orders, families and genera. List of species.

Note An exceptionally detailed study carried out with the object of clarifying classification and related aspects of the Palaeozoic Arachnida, in the light of the current knowledge of the developmental and internal anatomy of recent and extant examples of this order. In a long introduction the author has discussed such aspects of the problem as the segmentation of the abdomen, the organs of respiration, the circulatory system, and the sense organs. The heart of the book consists of detailed critical discussions of specific genera. In these discussions the author points out numerous errors of previous writers and states his own conclusions. Specimens examined by him are identified by number. There are 13 plates, most of which contain more than one drawing or photograph.

PHLEGER FRED B AND FRANCES L. PARKER

Ecology of Foraminifera, northwest Gulf of Mexico Part I, Foraminifera distribution, by Fred B Phleger Part II, Foraminifera species, by Fred B Phleger and Frances L. Parker New York The Geological Society of America, 1951 152 p illus 26 cm. (The Geological Society of America. Memoir 46) $2 75 529

Contents Part I Abstract. Introduction. Method of study Temperature and salinity distribution. Foraminifera populations in plankton samples. Distribution of Foraminifera in bottom samples. Distribution of Foraminifera in the cores Summary of conclusions. References Index Part II Abstract Introduction. Benthonic fauna. Planktonic fauna. References. Explanation of plates. Index.

Note A report of a scientific expedition planned "to obtain more exact information on distribution and relationship of Foraminifera species, genera and faunas to environments and to discover criteria that can be used for determining the paleoecology of similar faunas in sediments of the past to collect core samples of bottom sediment in the same region and determine the paleoecologic record by the use of criteria gained from existing associations, and to test and perfect new methods and add data. The first paper is a detailed study of the methods and results. The second paper provides taxonomic descriptions of the species discussed in the first paper

RASETTI FRANCO

Middle Cambrian stratigraphy and faunas of the Canadian Rocky Mountains (with 34 plates) Washington D C The Smithsonian Institution 1951 277 p illus 24 cm. (Smithsonian miscellaneous collections Vol. 116 no 5 Publication 4046) Paper $2 50 530

Contents: Part I, Stratigraphy Introduction. Summary of previous work. Method of work Description of localities and sections. Terminology Bow Lake. Hector Creek Slate Mountains. Mount Niblock. Mount Whyte—Plain of Six Glaciers Ross Lake Mount Bosworth Mount Victoria. Cathedral Mountain. Popes Peak Eiffel Peak. Mount Temple. Pinnacle Mountain Mount Schaffer Mount Odaray Park Mountain Mount Field Kicking Horse Mine. Mount Field Burgess Quarry Mount Stephen Cambrian formations. Lower Cambrian St. Piran sandstone. Middle Cambrian Mount Whyte formation. Cathedral formation. Stephen formation. Eldon. General statement. Fauna of the *Bonnia-Olenellus* zone Lower Middle Cambrian boundary Fauna of the *Wenkchemnia-Stephenaspis* zone. Fauna of the Plagiura-Kochaspis zone Fauna of the *Albertella* zone. Fauna of the *Glossopleura* zone. Fauna of the *Bathyuriscus-Elrathina* zone. Order of succession of the faunules. Species not discussed in this paper. Geographic and vertical distribution of trilobites. Environment of deposition. Index of localities. Part II, Paleontology: General statement. Terminology Classification of Cambrian trilobites. Descriptions of genera and species of trilobites: Order Agnostida. Order Redlichiida. Order Opisthoparida. References. Explanation of plates. Plates. Index.

Note: The area covered in this study is famous for the great development, high fossil content, and splendid exposures of the entire Cambrian system. The publication is based upon the findings and results of field work in the region covering four months in 1947 and 1948. The work is divided into two parts of equal size, one covering the stratigraphy the other the paleontology of the area. The trilobite fossils described and illustrated were selected from approximately 4000 collected by the writer and from others preserved in the United States National Museum collections. These fossils give a clear idea of the succession of trilobite faunas that followed the *Olenellus* fauna and preceded the *Albertella* fauna.

ROSS, REUBEN JAMES, JR.

Stratigraphy of the Garden City formation in northeastern Utah and its trilobite faunas. New Haven Yale University Press 1951 161 p illus. 27 cm. (Peabody Museum of Natural History Yale University Bulletin 6) $5.00. 531

Contents (abridged) Introduction Scope of the study Extent of the formations. Stratigraphy: Formation boundaries Lithology of the Garden City formation. Lithology of the Swan Peak formation. Faunal summary Systematic paleontology Opisthoparian trilobites. Proparian trilobites. Notes on evolutionary trends of Garden City Proparia. Ontogeny of *Pseudocybele* Kobayashi. Works to which reference is made. Index.

Note. A report, addressed to graduate geologists and paleontologists, of a study (made in the field and in the Peabody Museum of Natural History) of the formation named in the book's title, and of the associated Swan Peak formation. A fully detailed description is given of the stratigraphy of both formations. However most of the space in the volume is devoted to systematic descriptions of the trilobites found in the Garden City formation. About this fauna the author states: "The word 'prolific' hardly does justice to the trilobite fauna of the Garden City formation. In this report 87 species are described and illustrated. Of the 87 species, only 11 have been given specific designation; 49 are new species. At least 41 genera are represented, of which 14 were previously known. There are 36 plates, many of which contain reproductions of more than 10 photographs each.

STOYANOW ALEXANDER

Lower Cretaceous stratigraphy in southeastern Arizona. New York The Geological Society of America, 1949 169 p 26 cm. (The Geological Society of America. Memoir 38) $2 50 532

Contents. Abstract Introduction and acknowledgments. General part Paleontological part—Pelecypoda—Ammonoidea. References. Explanation of plates. Index.

Note A detailed professional study of the stratigraphy and paleontology of an area in southeastern Arizona which is especially rich in ammonite and lamellibranch faunas Twenty-one new species of ammonites and twenty-two of lamellibranchs are described. The work is based on field study and also on a study of several museum and private collections. There are 38 plates, the majority of which contain reproductions of photographs of specimens. One plate is an original geological map of the area.

STUMM EDWIN CHARLES

Revision of the families and genera of the Devonian tetracorals. New York The Geological Society of America, 1949 92 p. illus. 26 cm. (The Geological Society of America. Memoir 40) $2.00 533

Contents Abstract. Introduction. Classification. Description of families and genera. Bibliography Explanation of plates. Index.

Note In this work a new classification, in which the Devonian tetracorals are divided into sixteen families, is presented. Three of the families and five of the subfamilies have not been described before. Also given are new descriptions of the genotype species of all known Devonian genera. The descriptions of the genotype species are supplemented by illustrations and a comprehensive bibliography

BIOLOGY

GENERAL

ALLEE, WARDER CLYDE, AND KARL P SCHMIDT

Ecological animal geography Second edition An authorized edition rewritten and revised, based on *Tiergeographie auf oekologischer Grundlage* by the late Richard Hesse. New York John Wiley & Sons Inc., 1951 715 p illus. 24 cm. $9.50 534

Contents (abridged) Part 1 The ecological foundations of zoogeography: The conditions of existence for animals. Barriers to distribution and means of dispersal. The effect of geographic isolation. The influence of extent of range. Biotopes and biocoenoses. Part 2, The distribution of marine animals: The chemistry of the sea and its influence on animal life. The biotic divisions of the ocean. Geographic divisions of the animal communities of the sea. Part 3, The distribution of animals in inland waters, phases of limnology The environmental factors in inland waters. Communities in running waters. Communities in other inland waters. Part 4 The distribution of land animals: Ecological factors of the land and their effect on animals. Forest communities. Animal life of swamps and of shores. Alpine animals. Island communities. Subterranean animal life. The effect of man on the distribution of other animals. Index.

Note One of the more important studies of animal distribution and of the influence of environment and animals upon each other The first edition of the book was largely a translation of Hesse *Tiergeographie auf oekologischer Grundlage*, 1924. The present revision, although still based on the German work, has been so extensively rewritten and enlarged as to rank almost as a new work. Specifically new material has been added on such topics as aerial transportation in distribution, bioluminescence, coral reefs and islands, Hawaiian fauna, and winglessness in beetles. The data concerning the number of species in various regions have also been revised, and the chapter bibliographies have been brought up to date.

BATES MARSTON

The nature of natural history New York Charles Scribner's Sons, 1950 309 p. 24 cm. $3 50 535

Contents The science of natural history The naming of organisms. The catalogue of nature. The history of organisms. Reproduction. The development of the individual. The environment. Biotic communities. Partnership and cooperation. Parasitism. The behavior of individuals The behavior of populations Biological geography Adaptations The mechanism of evolution. Natural history and human economy The natural history of naturalists. Tactics, strategy and the goal. Appendix The literature of natural history Index

Note. In this book by an eminent biologist the essence of a variety of topics in natural history is rendered in non-technical terms for the general reader. In his discussion of such topics as bird migration, the author does not attempt to cover the subject or even present an outline Instead, he states some of the more interesting facts, then leaves it to the reader to pursue the subject further if he wishes. The appendix is a generalized discussion of the literature of natural history with particular mention of only a few titles, and the list of references is a selected list of books designed for the guidance of readers who wish to pursue reading in the field.

BONNER, JOHN TYLER

Morphogenesis, an essay on development. Princeton New Jersey Princeton University Press, 1952 296 p illus. 23 cm. $5 00 536

Contents: Introduction. Size and pattern. Physics and chemistry in development. Patterns of growth Patterns of morphogenetic movements. Polarity and symmetry Patterns of differentiation. An analysis of development. Bibliography Index.

Note: This study by a member of the faculty of the Department of Biology at Princeton University is primarily an analytical survey of the current state of the knowledge of morphogenesis. The author divides morphogenesis into constructive processes, particularly growth, morphogenetic movements and differentiation, and limiting processes, such as food supply He draws an analogy between growth and crystal formation but carefully points out that we do not know whether the processes that operate in the growth of crystals also operate in living organisms. The work is substantial enough to be of interest to professional biologists, but the style is not too technical for scientists who are not biologists nor for mature lay readers.

CAMERON GLADYS

Tissue culture technique. Second edition, revised and enlarged. New York Academic Press, Inc., 1950 191 p. illus. 24 cm. $4.20 537

Contents: Introduction to tissue culture. Basic considerations of space and equipment. Details of equipment. Sterilizing procedures. Physiological solutions. Plasma and serum. Preparation of tissue extracts. Artificial media. Preparation of tissues. Choice of methods for culturing. Cultures on coverslips. Cultures in flasks. Cultures in roller tubes. What one sees in tissue cultures. Some experimental procedures. Micromanipulation of tissue cultures, by Robert Chambers. Histological techniques. Photomicrography of tissue cultures, by C. G. Grand. Appendices: List of precautions to insure good growth. Conversion tables. Sources of supply for special tissue culture materials. Bibliography Supplementary references. Index.

Note: ([illegible]) A basic manual of tissue culture technique issued for the guidance of those concerned with that branch of biological experimentation. Details are presented in sufficient fullness to be helpful both to the beginner and to the more experienced technician. In the revision every chapter has been revised and almost entirely rewritten.

DICE, LEE R.

Natural communities. Ann Arbor University of Michigan Press, 1952 547 p. illus. 26 cm. $5.50 538

Contents (abridged) Some important kinds of communities. Methods for describing and measuring communities. Effects on communities of fluctuations in the physical conditions of their habitats. Food relations within communities. Fluctuations in populations. Fluctuations in community composition. Relations of organisms to their ecosystems. Home ranges and territories. Effects of social behavior on the community Ecologic relations between species. Community equilibrium. Effects of communities on their physical habitats. Ecological succession. Local and geographic variation within communities. Relations between communities. Classification of associations and microassociations. Larger units of community classification. Evolution of communities. Philosophy of communities. Literature cited. Index.

Note: A substantial introductory survey of the current knowledge of the ecologic principles of plant and animal communities under natural conditions. It is introductory in the sense that no previous acquaintance with ecology on the part of the reader has been presumed. However the reader does need an understanding of the general principles of biology Along with the discussion of principles the author mentions a great variety of facts culled from the literature and gives references from the text to the source articles.

FESSENDEN G R.

Preservation of agricultural specimens in plastics. Washington D C. Government Printing Office, 1949 78 p. illus. 23 cm. (United States. Department of Agriculture. Miscellaneous publication no 679) Paper $0.35 539

Contents: Introduction. Part 1 Preservation of natural color in plant specimens mounted in plastic plates: Equipment and supplies. Types of preserving fluids and their principal characteristics. Col-

lection, storage, and preliminary preparation of specimens. Processing the specimen for natural color preservation. Preserving and laying out the specimen. Dehydration and preparation for mounting. Mounting between plastic sheets. Care of finished mounts. Part 2 Embedment of biological specimens in plastic blocks: Equipment and supplies. Properties of methyl and ethyl methacrylates. Preparation of plastic. Selection of specimens. Preparing specimens for embedment. Casting supporting bases for specimens. Embedment of specimens. Finishing the castings. Care of finished mounts. Literature cited. Patents. Selected bibliography

Note: Equipment and supplies required for two different methods of preserving agricultural specimens in plastics and the techniques involved are described in this pamphlet. Photographic illustrations show steps in the processes and some samples of results.

GERARD, RALPH WALDO

Unresting cells. New York Harper and Brothers 1949 439 p illus 22 cm. $4 00 540

Contents: Out of the nowhere—prologue. Odyssey of an amoeba—simple cell life. Cell substances—protoplasmic chemistry. Architecture in miniature—protoplasmic structure. Master craftsmen—enzymes. Molecular traffic—metabolism. Fuel for the lamp of life—energy. Action and its consequences—irritability and behavior. Through the microscope—cell structure. Reproduction among molecules—specific synthesis. Oaks from acorns—growth, reproduction, and aging. From the general to the particular—differentiation, embryogeny. Inherited molecules—heredity and genes. Organism—epilogue. Index.

Note: A brilliantly written account for lay readers and nonspecialists of the basic life processes. Genes, molecules, enzymes, etc., are discussed rather than the habits and behavior of complex animals. Experimental methods used in gaining such knowledge in biology are described. The latter feature, together with the overall character of the book, makes it a good introduction for laymen to the methods of modern science. The book was first published in 1940, but publishing difficulties associated with World War II eventually caused it to go out of print. This edition appropriately called a reissue by the publisher has the original text except that errors have been corrected.

GOLDMAN EDWARD ALPHONSO

Biological investigations in Mexico (with 71 plates) Washington D C. The Smithsonian Institution, 1951 476 p illus. 24 cm. (Smithsonian miscellaneous collections. Vol. 115 (whole volume) Publication 4017) Paper $4.50 541

Contents: Introduction. Itinerary of Nelson and Goldman in Mexico and Guatemala, 1892 1906 Localities visited by Nelson and Goldman in Mexico and Guatemala, 1892–1906 Mexico: Aguascalientes. Baja California. Campeche. Chiapas. Chihuahua. Coahuila. Colima. Distrito Federal. Durango. Guanajuato. Guerrero. Hidalgo. Jalisco. México. Michoacán. Morelos. Nayarit. Nuevo León. Oaxaca. Puebla. Querétaro. Quintana Roo. San Luis Potosí. Sinaloa. Sonora. Tabasco. Tamaulipas. Tlaxcala. Veracruz. Yucatán. Zacatecas. Guatemala. Physiography: General features. The tableland or great interior plateau. Mountain ranges. Plains. Drainage. Climate. Biotic relations: Geographic distribution of species. Life zones: Lower tropical zone. Upper tropical zone. Lower austral zone. Upper austral zone. Transition zone. Canadian zone. Hudsonian zone. Arctic Alpine zone. Biotic provinces. Literature cited. Index.

Note: This volume describes a series of expeditions into Mexico between 1892 and 1906 by Edward W Nelson and Edward A. Goldman. At the time of the death of the author in 1946 the work was not entirely completed; subsequently the manuscript was reviewed, edited, and prepared for publication by his immediate supervisor Hartley H. T. Jackson, Chief of the Section of Biological Surveys, United States Fish and Wildlife Service. The outline of their itinerary during their time in Mexico is followed by a description of each of the towns visited, giving its altitude, the dates of their visit, and notes about physiography and vegetation. The remainder of the volume lists the species of plants, mammals, and birds found in each of the ten major life zones and subzones of Mexico, with identification provided of the localities where the species were found.

HARVEY, EDMUND NEWTON

Bioluminescence. New York Academic Press Inc., 1952 649 p. illus. 24 cm. $13 00 542

Contents: Bacteria. Fungi. Protozoa and Porifera. Cnidaria. Ctenophora. Miscellaneous small groups. Annelida. Mollusca except Cephalopoda. Cephalopoda. Crustacea. Arachnoidea and Myriapoda. Insecta except Coleoptera. Coleoptera. Echinodermata. Tunicata or Urochordata. Pisces. Addenda. Bibliography Index.

Note A monograph on the production of light by living organisms, written by one of the world's outstanding authorities on the subject. The arrangement of the book puts the emphasis on the organisms that have been studied, and information on the chemistry of bioluminescence is scattered throughout the book. Passages that contain more than incidental reference to chemical processes are indexed under "Biochemistry" in the subject index. The book is of interest first to biologists studying bioluminescence and second to chemists. Among chemists the interest is not limited to those workers investigating the production of light by chemical means but includes chemists concerned with enzymology, pharmacology etc. The comprehensive bibliography runs to 76 closely printed pages.

JAEGER, EDMUND CARROLL

A source-book of biological names and terms. Second edition. Illustrations by Merle Gish and the author Springfield Ill. Charles C Thomas 1950 287 p illus. 25 cm. $5.50. 543

Contents: How words are built. Types of names considered. Transliteration. Abbreviations. To the student. Biological names and terms.

Note: (1313b) An alphabetical guide for biologists to the origin, meaning, and use of the component parts of scientific names and terms. For each of over 12,000 word elements are shown Greek, Latin, or other origin, concise meaning, and example of use in scientific nomenclature. Prefixes and suffixes are included. More than 1500 new word elements have been added in this edition.

PALMER, EPHRAIM LAURENCE

Fieldbook of natural history New York McGraw Hill Book Company Inc., 1949 664 p. illus 23 cm. $8 00 544

Contents: The sky at night. The solar system: The sun. Planets. The earth The moon. The mineral kingdom Rocks. Minerals. The plant kingdom Thallophytes: Algae. Fungi. Bryophytes: Liverworts. Mosses. Pteridophytes: Ferns. Fern allies. Spermatophytes: Gymnosperms. Angiosperms: Monocotyledons. Dicotyledons. The animal kingdom Invertebrates: General invertebrates. Mollusca. Arthropods: Arachnids. Insects. Chordates, including vertebrates: Fishes. Amphibians. Reptiles. Birds. Mammals.

Note. This book presents a large amount of encyclopedic information about animate and inanimate nature. The first 39 pages of the volume are devoted to astronomy and geology. The remainder of the volume covers the vegetable kingdom and the animal kingdom. The arrangement of the biological material is by phyla and classes, a detailed index giving page references both to scientific and to common names in one alphabet. The illustrative material appears mostly in original line drawings occupying the upper third of each page. The remaining two-thirds of these pages present text in three columns containing detailed descriptions of the species and data on their range, relationships, life history, economic importance, etc. A feature is the inclusion of garden flowers, vegetables, and domesticated animals along with wild-life forms. Of larger size than the ordinary fieldbook, the work should be useful wherever a one-volume natural-history reference book is needed.

PARKER RAYMOND CRANDALL

Methods of tissue culture. With a chapter by Joseph F Morgan. Second edition revised, with 113 illustrations. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1950 294 p. illus. 24 cm. $7.50 545

Contents: Introduction. The laboratory. Special equipment. Cleaning and sterilization procedures. Diluting fluids, pH determinations and osmotic pressure. Preparation of plasma and serum. Preparation of tissue extracts. Development of synthetic media (by Joseph F Morgan) Coverslip cultures. Flask techniques for plasma cultures. Flask techniques for fluid cultures. Roller-tube techniques. Flask techniques for tissue fragments in suspension. Watch-glass cultures for embryological studies. Growth measurements and their interpretation. Histological procedures. Photomicrography and microcinematography. References. Index.

Note: (1940) The first edition of this work described techniques in use in the laboratory of Dr. Alexis Carrel at the Rockefeller Institute for Medical Research. In this edition the scope has been expanded to include techniques generally in use in biological research laboratories. Accordingly, many important revisions and additions have been made throughout the book. Techniques are described explicitly; furthermore, references are included in the text to citations of source articles. There are now 73 figures. The book is intended for graduate biologists, pathologists, etc., in need of practical guide to the field.

SINNOTT, EDMUND WARE

Cell and psyche, the biology of purpose. Chapel Hill The University of North Carolina Press, 1950 121 p. 21 cm. $2 00 546

Contents: Introduction. Organization, the distinctive character of all life. Biological organization and psychological activity Some implications for philosophy Suggested readings. Index.

Note: In this short book an internationally famous botanist presents the view that body and mind are two aspects of the same biological phenomenon. In other words, the evolution of living organisms and the development of man' mental qualities and even the individual traits of persons are all manifestations of basic quality of protoplasm which has as its purpose the survival of living organisms. Although essentially philosophical view the argument is solidly based on biological science. The contents of the book were first delivered as John Calvin McNair Lectures at the University of North Carolina.

SURVEY OF BIOLOGICAL PROGRESS Volume I. George S. Avery jr editor-in-chief New York Academic Press Inc. 1949 396 p. illus. 24 cm. $7.50 547

Contents: Teaching biology today by H. B. Creighton. The genes and gene action, by B. Glass. Tracer methods in biological research, by M. D. Kamen. Nutrition and reproduction, by K. E. Mason. Growth and development, by D. P Costello. Virus tumors, by L. M. Black. Hormones and the differentiation of sex, by R. K. Burns. Growth hormones and tissue growth in plants, by P R. White. Newer methods in the rapid development of disease-resistant vegetables, by W A. Frazier Influence of environmental factors on the vitamin content of food plants, by K. C. Hamner. Ecological studies on populations, by G. E. Hutchinson and E. S. Deevey jr. Author index. Subject index.

—— Volume II. George S Avery jr., editor-in-chief New York Academic Press Inc. 1952 333 p. illus. 24 cm. $7.00 548

Contents: Effects of radiations on biological systems, by A. H. Sparrow and F A. Forssberg. Progress in human genetics, by H. Kalmus. Biological oceanography by G. A. Riley Morphogenesis in plants, by E. Bunning. The control of plant growth by the use of special chemicals, with particular emphasis on plant hormones, by L. G. Nickell. Histochemistry by F Moog. The fine structure of protoplasm, by L. H. Bretschneider. Physiology of reproduction in plants, by A. W Naylor. Author index. Subject index.

Note: The first two issues of new series that follows pattern which is rather thoroughly established in several fields of science. Each of the papers is in effect monograph of the current knowledge of its special subject. It is based on an extensive survey of the pertinent literature, and careful citations are made from the text to the bibliography The main purpose of the series is to enable specialists to keep informed about the progress in areas in biological research other than their own.

TEXTBOOKS

BAITSELL, GEORGE ALFRED

Human biology Second edition. New York McGraw Hill Book Company, Inc., 1950 730 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences, E. J Boell, consulting editor) $6.50 549

Contents (abridged): The world of life. Protoplasmic activities. Organization of the human body Biology of nutrition. Biology of respiration. Biology of secretion. Biology of excretion. Biology of the vascular system. Biology of the skeletal system. Biology of the muscular system. Biology of the nervous system. Biology of growth and reproduction. Biology of inheritance. Human heredity The web of life. Biology of disease. Appendix. Index.

Note: (1939) A successful textbook for introductory college courses in biology Man rather than lower organisms is used as the chief example of life so as to take advantage of the greater interest in man on the part of beginning students. However many other organisms are discussed at appropriate points. The book includes as an appendix useful cyclopedic arrangement of information in which historical information on biological developments and personalities is included along with discussions of such topics as enzymes. Substantial revisions and additions have been made in this edition.

DE LAUBENFELS MAX WALKER

Life science. Fourth edition containing 1024 illustrations, 748 drawings by the author 276 photographs. New York Prentice-Hall Inc. 1949 407 p. illus. 29 cm. $5 95 550

Contents (abridged): I, General biology: History Biophysics. Biochemistry Cytology Embryology Histology II, Human biology: Anatomy Physiology Psychology Hygiene. Immunology Dietetics. III, Plant biology: Botany Phytophysiology Taxonomy Agriculture. Bacteriology IV Animal biology: Zoology Oceanography Parasitology Entomology Zoogeography Social biology: Ecology Genetics. Eugenics. Paleontology Anthropology Philosophy Index.

Note: Among the outstanding features of this introductory college text are the large compass, the exceptionally high number and excellence of the illustrations, and the author' easily read style. The expositions of such topics as heredity vs. environment are so well put that laymen read the book with pleasure and profit without the aid of an instructor. Annotated reading lists are included.

ETKIN WILLIAM

College biology Line drawings by Gottfried W Goldenberg. New York Thomas Y Crowell Company 1950. 806 p illus. 24 cm. $6 00 551

Contents: Part one The mechanisms of our bodies: Objectives of biological study The processes of living. The chemical machinery of the body Part two, Behavior: Movement. Sensitivity The nervous system. Hormones. Behavior patterns. Part three, The individual and the species: Reproduction. Development and growth. Mendel and the laws of heredity Gene action and development. Part four, Plant activities and the interdependence of organisms: The basic importance of green plant cells. The physiology of higher plants. The role of bacteria and fungi in nature. The organic community Parasitism and disease. Part five, The evolution of plants: The thallophytes. Vegetative evolution of higher plants. Evolution of reproduction in higher plants. Part six, The evolution of animals: Evolution of the arthropods. Echinoderm in invertebrate evolution. Vertebrate ancestry. The evolution of mammals and man. The mechanics and control of evolution. Appendix: Basic concepts from chemistry and physics. Bibliography Reports on experiments illustrated in figures. Glossary-index.

Note: A relatively new textbook for introductory courses. The content and presentation follow recommendations of the Committee on Basic Concepts in Biology of the Carnegie Foundation for the Advancement of Teaching, of which committee the author was member The style is concise but lucid. Basic principles including physiologic and biochemical principles are emphasized, and selected experiments which resulted in advances in biological knowledge are described. Some of the figures are accompanied by detailed legends which provide information for laboratory experiments. These enabled the author to dispense with much purely descriptive material. All of the illustrations are of excellent quality

GARDINER, MARY SUMMERFIELD

The principles of general biology New York The Macmillan Company 1952 657 p. illus. 26 cm. $5 75 552

Contents (abridged): Section one, The organization of the natural world The development of modern biology Matter and energy Atomic combinations and chemical reactions. Protoplasm and the cell. Section two, The organization of biological systems: The classification of biological systems and the divisions of biological science. Systems below the level of tissue organization. The vascular plants. The tube-within-a tube plan of metazoan organization. The arthropods. The Chordata. Integrating themes of the vertebrate body Section three, The operation of biological systems: Nutrition—the utilization of food. The dietary requirements of heterotrophs. Metabolism and its regulation. Growth and regeneration—fission, budding and parthenogenesis. Gametic reproduction. The inheritance of the

individual. Section four The evolution of biological systems: The doctrine of organic evolution. Index.

Note: The title and the content of this textbook for introductory college courses indicate the author's purpose of presenting a well-rounded picture with emphasis on principles. There are long discussions of such aspects as nutrition, whereas the discussions of classification are much shorter than in some introductory texts. There is an adequate number of illustrations, but not a lavish display such as is found in some contemporary textbooks in this field. The author is Professor of Biology in Bryn Mawr College.

HARDIN GARRETT

Biology its human implications. Second edition. Illustrations by Evan L. Gillespie. San Francisco California W H. Freeman and Company 1952 720 p. illus. 24 cm. (A series of biology texts editors George W Beadle and others) $5 00 553

Contents (abridged) Part one, Introduction to the science of biology Part two, The structure of man Skeletal and muscular systems of man. The breathing system. Digestion and nutrition. The circulatory system. The endocrine organs. Disease; antibodies, blood transfusions. Nervous impulses, consciousness, and reflex action. The organism as a whole. The senses. Human reproduction. Part three, Heredity The particulate nature of inheritance. Genetic aspects of some human problems. Sex and genes. Interactions of heredity and environment. Part four Evolution and the living world: The theory of evolution. Names and sizes of organisms. The conquest of the land by plants. Some aspects of reproduction and evolution in plants. Some invertebrate animals, and evolution to the land. Part five, The web of life. What is life? The transformations of matter in nature. Energy and population problems. Man—evolution in the future. Bibliography Index.

Note In this textbook for introductory college courses the emphasis is on general principles and on their significance for man. A considerable number of topics not ordinarily discussed in introductory texts—for instance, the logic of blood tests in cases of disputed paternity—are discussed On the other hand little space is given to systematics. The book is well illustrated and adequately indexed. The author is a member of the faculty of Santa Barbara College of the University of California.

MARSLAND DOUGLAS

Principles of modern biology A complete reconstruction and modernization of Charles R. Plunkett's *Elements of modern biology* revised edition New York Henry Holt and Company 1951 757 p illus. 25 cm. $6.25 554

Contents (abridged) Part I, The cell Protoplasm, the cell, and the organism. Cell division in relation to reproduction The chemical and physical structure of protoplasm Enzymes—speed and order in cell chemistry Osmosis—material exchanges between the cell and the environment Cells and their nutrition Responsiveness in single cells. Part II, Multicellular plants: Reproduction in multicellular plants. Nutrition of multicellular plants. Part III, Multicellular animals, especially man Embryonic development—origin of organs and tissues. The digestive system in man and other multicellular animals. The circulatory system. Absorption, metabolism and the diet. Respiration. Excretion Reproduction in multicellular animals. The endocrine glands. Responses of higher animals. Part IV Heredity and evolution Natural selection—the origin of species The consequences of evolution. Ecology and evolution. Appendixes Classification of organisms Glossary Index

Note. (445*) A standard textbook for introductory college courses. The biology is emphasized but the view given of the living world is sufficiently broad to meet the needs of the intended readers. In this edition a considerable number of illustrations are revised or newly added, there is a new chapter on ecology and evolution, and new discussions of such topics as virology and antibiotics.

MAVOR, JAMES WATT

General biology Fourth edition New York The Macmillan Company 1952 875 p illus. 24 cm. $5 75 555

Contents (abridged) Part I, The nature of life The scientific method and its application to biology The general characteristics of living things. The classification of plants and animals. The cell. Protoplasm. Part II, Plant life: The thallus plants. Bacteria. Liverworts and mosses. The ferns and their relatives. The alternation of generations and its significance. Seed plants. Plant physiology The economic importance of plants. Part III, Invertebrates: Unicellular animals. Saclike animals with ectoderm and endoderm. Flatworms. The round worms. The segmented worms. The arthropods. Part IV Vertebrate anatomy and physiology based on the frog and man: External features, skeleton, joints, muscles, and body cavity The digestive system. The respiratory and excretory systems. The circulatory system. The nervous system. The sense organs. The endocrines. Reproduction. Part V Development and heredity Part VI, The organic world and its evolution: The history of life on the earth. The history of the theory of evolution. The evidences for organic evolution. The mechanism of organic evolution. Early man. Appendix: A synoptic table of the plant and animal kingdoms. Reference and background material in chemistry Glossary Index.

Note: (484) An established textbook for use in full-length introductory college courses. The treatment places emphasis on the scientific method and stresses phenomena and facts which can easily be verified in the college laboratory or from common experience. In the present edition there has been some reorganization, some revisions and some addition of material that did not appear in the third edition. Also a considerable number of new illustrations have been added.

MILNE, LORUS JOHNSON, AND MARGERY J MILNE

The biotic world and man. New York Prentice-Hall Inc. 1952 588 p. illus. 26 cm. (Prentice-Hall biological science series, Henry Burr Steinbach editor) $9.00. 556

Contents Approach to biology The variety of life. The basic materials of life. Energy relations of life. Water relations of life. The form of life single cells and smaller—multicellular plants—multicellular non-chordates—chordates. Chemical coordination. Faster coordination and behavior. Carriers of heredity Development of the individual. The abundance of life. The hazards of life. The history of life. The value of life. Looking toward the future. Index.

Note A college textbook for first courses in biology The authors emphasize a grasp of the main features of biological processes rather than the memorizing of the details of classification. Much more space is devoted to functions than to form. The book is written in a clear factual style that holds the reader's interest, and it is very well illustrated.

MOMENT GAIRDNER B

General biology for colleges. Second edition. New York Appleton-Century-Crofts, Inc., 1950 680 p illus. 25 cm. (The Century biological series Dwight E. Minnich, *editor*) $5 50 557

Contents (abridged) Foundations of biology Classification of the living world. Universal characteristics of living things. Survey of plant types and ways of life. Plant life—conduction, support, and absorption—metabolism—reproduction—behavior and growth. Relationships of plants and animals. Animal types. Animal life—nutrition—respiration—excretion—nervous coordination—sense organs—hormonal coordination. Reproduction. Development. Heredity. Evolution—the origin of species History of life on this planet. Classification of the plant and animal kingdoms. Glossary Index.

Note (1333) An introductory textbook of inclusive scope. Particular attention is given to the experimental evidence upon which the facts and principles of modern biology rest. Throughout the book human biology is related to the biology of other forms of life. It is generously illustrated. The previous edition was published in 1942 In preparing this edition the author added many new illustrations, a considerable amount of new text, and revised the reading lists.

STANFORD ERNEST ELWOOD

Man *and the living world.* Second edition. New York The Macmillan Company, 1951 863 p illus. 22 cm. $5.50 558

Contents (abridged) Unit one, Science and living things. Unit two, The green plant—manufacturer of foodstuffs and of raw materials for industry Unit three, The human body—its structures and functions. Unit four The maintenance and health of the body—foods, nutrition, poisons, and disease. Unit five, *Microorganisms* and their relation to human life. Unit six, A survey of the animal

kingdom. Unit seven, A survey of the plant kingdom. Unit eight, Evolution and heredity. Unit nine, Domestication and breeding of plants and animals. Unit ten, The biological resources of the United States and their utilization. The soil. Forest resources of the United States. Conservation of wild life. Index.

Note. (1942) A textbook designed for use in introductory courses in biology. It offers the beginning student a view of not only the nature of biology but also of the applications of biological sciences in many fields such as nutrition, public health, zoological and botanical systematics, the study of heredity, breeding of domestic animals, and conservation of natural resources. Both the text and the illustrations are designed to hold the attention of the beginning student. The first edition was published in 1940. The general plan and considerable part of the contents of the book remain unaltered in this edition. However, information has been added on a number of topics such as the effects of radiation on heredity in human beings. Also historical and economic data have been brought down to date. There are now 437 figures.

STAUFFER, ANDREW editor

Introductory biology Authors Nelly J Bosma, E. C. Colin, R. Clark Gilmore, S W Howe, W Henry Leigh, P Meglitsch, H. C. Nelson, J F Schuett, Andrew Stauffer and J P Wessel. New York D Van Nostrand Company Inc., 1949 722 p. illus. 24 cm. $5.50 559

Contents: Introducing living organisms. How organisms secure food. How organisms transport materials within their bodies. How organisms utilize food and excrete wastes. How organisms coordinate their activities. How organisms reproduce. How organisms inherit. How species originate. How organisms live with each other. How man may live healthfully. Bibliography. Glossary. Index.

Note: A textbook organized so as to emphasize the fundamental unity of life and the similarities among the physiologic processes of living things. There is secondary emphasis on man, not only upon his life processes but also upon his influence on nature in such aspects as the destruction of wild life. The book is well suited for use in "cultural" courses whose purpose is to inform students about biology and to indicate its scope rather than to prepare them for further specialization in the field.

WELLHOUSE WALTER HOUSLEY AND GEORGE O HENDRICKSON

College biology Fourth edition. Ames Iowa State College Press 1951 371 p. illus. 23 cm. $4 00 560

Contents (abridged) Part I, Protoplasm, its form and activities as shown in simple organisms. Part II, Structure and activities of complex animals. Part III, How organisms are classified. Part IV Structure and activities of chordate animals. Part Development of modern animals. Part VI, Behavior and heredity. Part VII, The struggle for existence and adaptations. Index.

Note: (1943) A successful college textbook of the "cultural" type, designed to give students who are not majoring in biological sciences a general fundamental understanding of biology. No attempt is made to cover the whole animal kingdom. The third edition appeared in 1944. In preparing that edition several chapters on higher plants of the first edition were omitted and the chapter on the grasshopper was added. Other revisions were made in both the text and illustrations.

WINCHESTER ALBERT MCCOMBS

Biology and its relation to mankind. New York D Van Nostrand Company Inc. 1949 777 p illus. 23 cm. $5 75 561

Contents (abridged) Part I, Foundations of biology: The fundamental unit of life—the cell. The nature of protoplasm. Vital life processes. The classification of living things—taxonomy. Part II, The plant kingdom. Part III, The higher plant body. Part IV The animal kingdom. Part The higher animal body: The skeletal system. The muscular system. The nervous system. The respiratory system. The digestive system. The circulatory system. The excretory system. The reproductive system. The endocrine glands, regulators of the body. Part VI, Some important divisions of biology: Microbiology—the study of microscopic organisms. Entomology—the study of insects. The orders of insects. The bridge of heredity. The principles of heredity. Ontogeny of the chordates. Biological evolution—the concept of descent with change. Life of the past. Human life of the past. The founders of biology. Glossary. Index.

Note: A textbook designed for use in introductory courses in colleges. Life processes are stressed rather than taxonomic aspects. A wealth of material on various phases of the subject is presented to stimulate the interest of the beginning student. Illustrations, many of them from photographs by the author, add to the attractiveness of the volume.

WOODRUFF LORANDE LOSS, AND GEORGE ALFRED BAITSELL

Foundations of biology Seventh edition. New York The Macmillan Company 1951 719 p illus. 22 cm. $5.50 562

Contents (abridged) The scope of biology. Cellular organization of life. The physical basis of life. Metabolism of organisms. The plant body. The animal body. Nutrition. Respiration. Secretion. Excretion. Circulation. Nervous system. Reproduction and cell division. Reproduction and germ cell formation. Reproduction and fertilization. Animal development. Reproduction in plants. Genetics. Origin of species. Organic adaptation. Biology and human welfare. Origin of life. Survey of the plant kingdom. Survey of the animal kingdom. The human background. History of biology. Bibliography. Glossary. Synoptic classification of the plant kingdom. Synoptic classification of the animal kingdom. Index.

Note: (1945) An introductory textbook that has been widely used in American college courses since the publication of the first edition in 1922. Although shorter than many books of the kind, it is general treatment and the style is not so compact that it is difficult to read. Professor Baitsell is responsible for the seventh edition. The number of chapters has been increased by six, and there has been some rearrangement of chapter order and material within the chapters carried over from the previous edition. Also there has been some revision of the illustrative matter.

YOUNG CLARENCE WHITFORD AND G LEDYARD STEBBINS

The human organism and the world of life. Revised edition With the editorial assistance of Richard M Eakin and E R. Hall. Illustrations by *Louise Bush* New York Harper & Brothers, 1951 897 p. illus. 24 cm. $6 00. 563

Contents (abridged) Part one, The human organism: Protoplasm and the cell. The architecture of the body. The nervous system. The circulatory system. The chemical control of bodily activities. The growth of the scientific tradition. The development of endocrinology. Respiration. Digestion and absorption of food. The balance of materials in the body. Reproduction. The principles of heredity. The sense organs. Motivation and emotion. The evolution of the mind. Emotional adjustment. The struggle against disease. Part two, The world of life: Metabolism in the plant kingdom and in the world of life. The simpler forms of plant life. Maintenance, growth, and reproduction in the higher plants. Adaptations of organisms. Communities of organisms. The fact of evolution. Human evolution. Appendix: The branches of biological science. Suggested reading. Index.

Note. (1946) An introductory survey which was originally developed as a result of experimentation in the teaching of biology to freshman students at Colgate University. It gives the student an appreciation of the scope and potentialities of the biological sciences and makes him aware of his own biological nature and his relationships to the organic world. It is particularly suitable for use in the "cultural" type of course offered to students who will take no more courses in biology. The first edition appeared in 1938. Significant changes in this edition include newly added chapters on scientific method, on hunger and diet, and on communities of plant and animal life. Changes have been made throughout the book in the text, illustrations, and reading lists.

CYTOLOGY

BROOKHAVEN NATIONAL LABORATORY BIOLOGY DEPARTMENT

The chemistry and physiology of the nucleus. Proceedings of the symposium held August, 1951 by the Biology Department,

Brookhaven National Laboratory New York Academic Press Inc., 1952 402 p. illus 24 cm. (Experimental cell research. Supplement 2 1952) $7 00 564

Contents: Problems in nuclear chemistry and biology by K. G. Stern. Interrelations between nucleus and cytoplasm—problems at the biological level, by J Schultz. The role of the nucleus in protein synthesis, by F Haurowitz and C. F Crampton. Nucleoproteins of the nucleus, by A. W Pollister. Quantitative optical techniques in the study of nuclear chemistry by M. J Moses. The lampbrush chromosomes of *Triturus viridescens*, by J. G. Gall. The enzymes of isolated nuclei, by A. L. Dounce. Histochemical demonstration of nuclear enzymes, by A. B. Novikoff. Evidence for the polynucleotide nature of cytodesoxyribose, by F Bickley. Organization and function of the inorganic constituents of nuclei, by D. F Poulson and V T Bowen. Studies on the metabolism of the nucleic acids, by A. Bendich. Specificity in the composition of nucleic acids, by G. R. Wyatt. Chemical action of X-rays on nucleic acids and related substances in aqueous systems, by G. Scholes and J Weiss. Relationships between ionizing radiation chromosome breakage and certain other nuclear disturbances, by A. H. Sparrow and others. Chromosome metabolism as shown by autoradiographs, by S. R. Pelc and Alma Howard. Effects of purines and other chemotherapeutic agents on nuclear structure and function, by J J Biesele and others. The effect of colchicine on the microscopic and submicroscopic structure of the mitotic spindle, by S. Inoué. Current status of the bacterial nucleus, by E. D. DeLamater and others. The origin of bacteriophage nitrogen, carbon, and phosphorus, by F W Putnam. The fate of the infecting virus particle, by L. M. Kozloff. The biological nature of the bacterial transforming factors, by R. D. Hotchkiss. Author index.

Note. A collection of the papers together with transcripts from the discussions of them at the symposium named in the book's title. The various papers summarize progress in currently active areas of investigation pertinent to the nucleus of living cells. They are addressed to professional biologists and other trained scientists. Although accompanied by extensive literature references, some of these contain information not previously published as well as that which has already appeared in the professional literature.

International review of cytology Volume 1. Prepared under the auspices of the International Society for Cell Biology Edited by G H. Bourne and J F Danielli. New York Academic Press Inc. 1952 368 p. illus. 24 cm. $7.80 565

Contents: Some historical features in cell biology by Arthur Hughes. Nuclear reproduction, by C. Leonard Huskins. Enzymic capacities and their relation to cell nutrition in animals, by George W Kidder The application of freezing and drying techniques in cytology by L. G. E. Bell. Enzymatic processes in cell membrane penetration, by Th Rosenberg and W Wilbrandt. Bacterial cytology by K. A Bisset. Protoplast surface enzymes and absorption of sugar by R. Brown. Reproduction of bacteriophage, by A. D Hershey. The folding and unfolding of protein molecules as a basis of osmotic work, by R. J Goldacre. Nucleo-cytoplasmic relations in amphibian development, by G. Fankhauser. Structural aspects in mitosis, by M. M. Swann. Factors which control the staining of tissue sections with acid and basic dyes, by Marcus Singer. The behavior of spermatozoa in the neighborhood of eggs, by Lord Rothschild. The cytology of mammalian epidermis and sebaceous glands, by William Montagna. The electron microscopic investigation of tissue sections, by L. H. Bretschneider. The histochemistry of esterases, by G. Gomori. Author index. Subject index.

Note The first volume of an annual that will provide for cytology periodical collections of short monographs similar to those that have been published for some time in numerous other scientific fields. As indicated by the titles above, each monograph is devoted to a specific area, generally one in which there is much current interest, or in which there have been important new advances. The typical monograph is a critical and rather concise digest of the related literature and is supplemented by a substantial list of references. It is addressed to graduate scientists including not only biologists but workers in other fields who are for one reason or another in need of a compact survey of a cytological subject. In the present volume, seven of the contributors are British, five are American, one is Dutch, one Danish, and one Swiss.

Symposium on cytology By William L. Doyle, Hans Ris Franz Schrader and C. Leonard Huskins. East Lansing, Mich. Michigan State College Press, 1951 69 p. 23 cm. $1.50 566

Contents: Quantitative aspects of the histochemistry of phosphatases, by W L. Doyle. Recent work on the chemistry of chromosomes, by H. Ris. A critique of recent hypotheses of mitosis, by F Schrader. Science, cytology and society by C. L. Huskins.

Note. A collection of original papers originally presented at a symposium held at Michigan State College in 1950 and directed at bringing to the attention of biologists in other fields some of the major problems, concepts, and directions in the field of cytology. Each paper has its own bibliography

MARINE AND FRESHWATER BIOLOGY

Lagler Karl F

Freshwater fishery biology Dubuque, Iowa Wm. C. Brown Company 1952 360 p. illus. 24 cm. $5 75 567

Content (abridged) Natural history and ecology Freshwater fishes of North America, north of Mexico. The literature of fish and fisheries. Fish anatomy Fish embryology Food habits. Age and growth. Fish populations. Yield analyses. Fish pathology Fish culture. Fishery surveys of lakes, ponds, and impoundments. Improvement of lakes, ponds, and impoundments. Stream surveys. Stream improvement. Creation of new fishing waters. Freshwater commercial fisheries. Freshwater recreational fisheries. Appendices. Index.

Note. A documented text and reference book for fishermen, students, teachers, and professional workers. It covers all phases of the subject and is well arranged and well illustrated. Bibliographical references are given at the ends of the chapters. Noteworthy is the separate chapter on the literature of fish and fisheries.

MacGinitie, George Eber, and Nettie MacGinitie

Natural history of marine animals. New York McGraw Hill Book Company Inc., 1949 473 p illus. 23 cm. $6.50 568

Contents Introduction. Foods Plankton. Detritus. Other animals. Debris. Seaweed. Comparison between the fauna of land and of ocean Groupings of animals Animal relationships T their physical environment. T each other Sense organs. Luminescence. Marine animal habitats. Growth rates. Burrowing. Variation and succession. Geological records left by animal activities. Protozoa. Porifera. Coelenterata. Ctenophora. Platyhelminthes. Turbellaria. Trematoda. Cestoda Nemertea. Nematoda Chaetognatha. Phoronida. Bryozoa. Brachiopoda Sipunculoidea. Echiuroidea. Annelida. Echinodermata: Asteroidea. Echinoidea. Ophiuroidea. Holothuroidea. Crinoidea. Arthropoda Crustacea. Arachnida. Mollusca: Pelecypoda. Gastropoda. Amphineura. Scaphopoda. Cephalopoda. Protochordata: Enteropneusta. Tunicata. Cephalochordata. Vertebrata: Cyclostomata. Pisces. Mammalia. The relation of higher vertebrates to shore conditions. Phyla of animals General habitats of phyla and classes. Books dealing with marine animals. Index.

Note This book on representative marine animals is designed for amateur naturalists and for teachers and beginning students of zoology The longest chapters are those dealing with the Arthropoda and the Mollusca, each about 75 pages; the chapter describing the vertebrate forms, including the true fishes, is about half as long. The species include at least one from each of the major groups of marine invertebrate animals, those chosen for description being those most frequently met with and those with the most interesting habits. Information on habits, habitats, and ecologies is included in the descriptions. The majority of the illustrations are from photographs taken by the authors along the Pacific Coast of North America.

Miner Roy Waldo

Field book of seashore life. New York G P Putnam's Sons, 1950 888 p. illus. 19 cm. $7 00 569

Contents Phylum Protozoa—the simplest animals. Porifera—sponges. Coelenterata—the polyps. Ctenophora—the comb jellies. Platyhelminthes—the flatworms. Nemertea—the ribbon worms. Nemathelminthes—roundworms, threadworms. Trochelminthes—wheel animalcules. Annulata—segmented or ringed worms. Arthropoda—crustaceans, arachnids, myriapods, and insects. Mollusca—snails, bivalves, chi-

tons, octopuses, and squid. Chaetognaths—arrow worms. Echinoderms—sea-stars, brittle-stars, sea-urchins, sea-lilies, and sea-cucumbers. Procoptyle—moss animals and lamp shells. Chordata—the protochordates and vertebrates. Selected references. Index.

Note. A field manual for use by amateur and professional naturalists in the rapid identification of the invertebrate animals found in the shallow oceanic waters of the Atlantic coast of North America from Labrador to the Cape Hatteras region of North Carolina. Concise semi-technical descriptions of the various animals are supplemented by 131 plates in black and white and nine plates in color. Most of the plates contain plurality of drawings.

WELCH PAUL SMITH

Limnology Second edition. New York McGraw Hill Book Company, Inc., 1952 538 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences, E J Boell consulting editor) $8.50 570

Contents: Part I, Preliminary considerations: Introduction. Inland waters. Lakes, their origin and diversity. Part II, Nature of inland-water environments. Physical conditions and related phenomena. Chemical conditions and related phenomena. Part III, Biological relations: Influence of physical conditions. Influence of chemical conditions. Organisms in inland waters. Plankton. Bacteria, other fungi, and the nonplankton algae. Larger aquatic plants and their limnological significance. Nekton. Benthos. Biological productivity. Part IV Some special types of lentic environments: Ponds. Bog lakes. Part Lotic environments: Running waters in general. Bibliography. Index.

Note: (1351) An advanced college text on inland water life first published in 1935 and now extensively revised and enlarged. The level of treatment presumes completion of basic introductory courses in biology physics, and chemistry on the part of the reader. A brief history of the subject and analyses of physical and chemical influences are preliminary to the discussion of the biological aspects. Methods and practices for field and laboratory work are not covered. The extensive bibliography is classified and includes monographs and periodical literature through 1951 in English and other languages. There are 34 tables and 50 explanatory diagrams. The book is of interest not only to students of limnology but also to specialists in related fields such as ecology.

MICROSCOPY

BENNETT ALVA HERSCHEL, AND OTHERS

Phase microscopy principles and applications. By Alva H. Bennett, Harold Osterberg, Helen Jupnik and Oscar W Richards. New York John Wiley & Sons, Inc. 1951 320 p. illus. 23 cm. $8.50 571

Contents: Introduction to phase microscopy. An elementary theory of phase microscopy. Instrumentation. The technics of phase microscopy. Phase microscopy in biology and medicine. Industrial applications of phase microscopy. Appendix: The diffraction theory of phase microscopy with Köhler illumination. Bibliography. Author index. Subject index.

Note. Phase microscopy is a relatively new technique that is especially valuable in viewing transparent and semitransparent material. When used in connection with biological research, it eliminates the need of laborious preparation staining of tissues and facilitates the examination of living material. Many articles have been written on the subject, but this appears to be the first book. It is technical, rather than a popular treatise, and is designed primarily for research workers who make extensive use of microscopy. Theory, mathematical calculations, and techniques are all covered. There is a comprehensive bibliography. The authors are associated with the research laboratory of the American Optical Company.

GRAY PETER

Handbook of basic microtechnique. New York The Blakiston Company 1952 141 p. illus. 24 cm. $3 00 572

Contents (abridged) Part 1, Materials and processes of slide-making: Materials and equipment. Fixatives and fixatives. Stains and staining. Dehydrating and clearing. Mounts and mountants. Making wholemounts. Making smears. Making sections. Cleaning, labeling, and storing slides. Part 2, Specific examples of slide-making. Index.

Note: Explicit information on the preparation of biological material and the making of slides for microscopical examination is presented in this compact handbook. Materials, such as fixatives, and techniques, such as sectioning, are described in the first part. In the second part the making of fifteen slides of various complexities is described in detail. These descriptions contain some fine points that could not be incorporated in the more generalized material in the first section. There are fifty-seven figures. The book is suited to the needs of beginners and also to those of experienced laboratory workers who make biological slides only occasionally.

JONES, RUTH MCCLUNG, editor

McClung's handbook of microscopical technique for workers in animal and plant tissues By thirty five authors. Edited by Ruth McClung Jones Third edition, revised and enlarged. With one hundred and fifty-seven illustrations. New York Paul B Hoeber Inc. (Medical Book Department of Harper & Brothers), 1950 790 p illus. 24 cm. $12.50 573

Contents: Part I, General procedures and information: Basic methods for preparing microscopical slides, by R. M. Jones and C. E. McClung. Fixation and fixatives, by E. Allen and C. E. McClung. Stains and staining, by H. J. Conn. Part II, Special procedures with limited application: Methods of cytology by C. E. McClung and others. Methods of embryology by R. M. Jones. Methods of histology by R. Isaacs and others. Methods of protozoology by D H Wenrich and W F Diller. Part III, Special procedures with general application: Methods for study of fresh material, by M. H Knisely and others. Methods applicable to the study of both fresh and fixed materials, by H. S. Bennett and others. Methods for fixed materials, by D. A. Haller and others. Index.

Note. (1940s) A standard and widely used manual of fundamental principles, practical techniques, formulas, and literature references. In comparison to the preceding edition this one has been extensively revised so as to cover recent developments such as phase microscopy polarization microscopy new methods for embedding of specimens in plastics, and new formulas. Many of the sections are the work of new contributors. The number of illustrations has been substantially increased.

WYCKOFF RALPH WALTER GRAYSTONE

Electron microscopy technique and applications. With 202 illustrations New York Interscience Publishers Inc. 1949 248 p 24 cm. $5.00 574

Contents: Introduction. Electron microscopes. Adjustment of the electron microscope. Preparations for electron microscopy. Metal shadowing and the visualization of very small objects. The use of surface replicas. The electron microscopy of particle suspensions. The electron microscopy of viruses. The photography of macromolecules. The structure of macromolecular solids. Index to text. Index to micrographs.

Note. The purpose of this volume is to provide laboratory technicians and students with brief descriptions of some of the successful applications made of the electron microscope, and to indicate its possibilities and limitations. Introductory chapters deal with the instruction, operation and adjustment of such microscopes, but the main emphasis is on fields of application, especially in the biological and medical sciences. Each chapter includes an extensive bibliography and many excellent electron micrographs prepared by the author.

EVOLUTION

BLUM HAROLD FRANCIS

Time's arrow and evolution. Princeton, New Jersey Princeton University Press, 1951 222 p. illus. 24 cm. $4.00 575

Contents: Perspectives. The chronology of evolution. The energetics and kinetics of chemical reaction. The origin and early evolution of the earth. Later history of the earth. The fitness of the environment. The energetics and kinetics of living systems. Structure and its reproduction. Stability and variability. The origin of life. Irreversibility and direction in evolution. Some implications. Bibliography. Index.

Note. That the second law of thermodynamics ("Time's arrow") has determined the origin of life and the direction of evolution of living organisms is the central theme of this book. The work is mainly an examination of the evidence from various fields of science that appears to support the basic idea rather than the statement of definite hypothesis. It is addressed primarily to scientists or at least to persons who are moderately familiar with the terminology and concepts of physical and organic chemistry. The style is lucid and the ideas advanced are well supported by references to the pertinent literature. In addition to its obvious interest to students of evolution, there are numerous ideas of value to biochemists as well.

CLAUSEN, JENS

Stages in the evolution of plant species. Ithaca, New York Cornell University Press 1951 206 p illus. 24 cm. $3 75 576

Contents Introduction. The evolution of our concepts of speciation. The local population as the basic evolutionary unit. The evolution of ecological races. The genetic systems of ecological races and morphological subspecies. The evolution of interspecific barriers. The evolution of groups of species. The physiologic genetic species concept and the dynamics of the evolution of species and genera. Bibliography Index

Note A book based on a long series of experiments conducted at the Royal Agricultural College in Copenhagen, Denmark, and at the Carnegie Institution in Washington by the author and his colleagues. The results, which illustrate the complexity of the evolutionary process, are not presented statistically but are stated incidentally in connection with conclusions drawn about the mechanisms and direction of evolution among plants. The material was prepared and presented as the Messenger Lectures at Cornell University in the fall of 1950. The style is semi-technical but is well within the grasp of any educated person who is moderately familiar with botanical and genetical terminology. On the other hand, there is enough substance and original thought to make the book of interest to graduate scientists working in fields where the evolution of plants is of interest.

CLEMENTS FREDERIC EDWARD AND OTHERS

Adaptation and origin in the plant world the role of environment in evolution. By Frederic E Clements, Emmett V Martin, and Frances L. Long Photographs and drawings by Edith S Clements. Waltham, Mass. The Chronica Botanica Company 1950 332 p illus 4 cm $6 00 577

Contents I, Coastal laboratory and experimental gardens. Installation. Factor functions and form. Behavior II, Alpine laboratory and transplant gardens. Installation. Factors and control. Functions. Ecographs. Controlled experiments. Experimental morphogeny. Phylogeny. Summary and conclusions. Appendix. Index

Note In this book a series of experiments that extended over forty years and was designed to shed light on whether adaptation to environmental conditions is an evolutionary process or merely a selecting-out of strains already present in the genetic constitution are described. In the course of the experiments plants were subjected to widely various environmental conditions. The methods of investigation are described in detail and results are tabulated. The series of experiments was not completed, hence the book is not a final report. Nevertheless it contains material of primary interest to research workers in plant genetics and ecology

DODSON EDWARD OTTWAY

A textbook of evolution Philadelphia W B Saunders Company 1952 419 p illus. 24 cm. $5 00 578

Contents (abridged) Part I, A definition of evolution. Evolution by natural selection—Darwin's conception. Evidences of evolution, I—biogeography. Evidences of evolution II—taxonomy, comparative anatomy and comparative physiology. Evidences of evolution, III—paleontology and genetics. The history of evolutionary thought. The two main problems of evolution. Part II Phylogeny (evolution above the specific level) The origin of life and the differentiation of the plant and animal kingdoms. The main lines of evolution among land plants. The main lines of animal evolution. The history of the primates. Part III The origin of variations ("descent with modification") Gene mutation. Chromosomal mutations. Part IV The origin of species or the origin of discontinuity. Natural selection. Continuous vs. discontinuous variation. Isolating mechanisms and species formation. Polyploidy. Distribution of species. Index.

Note: The background and present status of evolutionary theory are well presented in this book. The author shows that evidence from several areas of scientific research is being fused in a modern synthesis to which such men as Dobzhansky, Goldschmidt, R. A. Fisher, Mayr, and E. B. Babcock have made substantial contributions. The chapter on the primates includes the new light shed on the evolution of man by the discovery of the pithecanthropus skulls. Although designed as an introduction to the subject for college students, the book is suitable for reading by anyone interested in a survey of the contemporary situation in this field. The author is a member of the faculty of the University of Notre Dame.

GREGORY, WILLIAM KING

Evolution emerging a survey of changing patterns from primeval life to man A collaborative work of the American Museum of Natural History and Columbia University New York The Macmillan Company, 1951. 2 vol. illus. 26 cm. $20 00 579

Contents (abridged) Volume I, Text. Part one, Time and evolution. Introduction, the cosmic climate. The first living things. The world of molluscs. Externally articulated animals (arthropods). Part two, Emergence of the vertebrates: Coelomate food-sifters of diverse types (brachiopods, polyzoa, echinoderms). The prochordates and the problem of the origin of the vertebrates. The vertebrates come forth (shell-skinned ancestors of the vertebrates and some of their branches). Early experiments among streamlined predators (placoderms). Advanced predators of the shark tribe. The branching tribes of bony fishes. Part three, Air-breathing fishes: The air-breathers struggle for life. The air-breathers come up on land. From lowland marsh to forest and desert. Back to the waters and down to the sea. The reign of the archosaurians (thecodonts, crocodilians and dinosaurs). Bat-winged reptiles (pterosaurs) and the feather-winged frame of birds. Part four The rise and branching of the mammals: From stalking reptiles to running mammals a critical stage in evolution. The dark ages of mammalian history (mesozoic mammals). Branching evolution in egg laying and marsupial mammals. Rise of the placental mammals (the outer form and inner frame of insectivores, tree-shrews, bats, edentates, rodents). Archaic and modernized carnivores, including seals (Pinnipedia). Outer form and inner frame among the hoofed mammals (Ungulata). Fish-like by convergence (Cetacea). Part five, The devious paths to man: Origin, rise and deployment of the primates. Man's debt to the past. Part six, Evolution emerging, retrospect and prospect. Law and chance. Bibliography. Index of authors. General index. Volume II, Illustrations.

Note The publication of this monumental work culminates plans formulated by three successive generations of Columbia zoology professors for a textbook covering the evolution of vertebrate animals from earliest times to the present. The first volume contains the text without illustrations but with references to the illustrations. The second volume contains 1013 pages of illustrations arranged under the same chapter titles as the text volume. In both volumes the details and evidences of vertebrate evolution are presented in logical order with attention centered especially upon the emergence of new skeletal patterns. The study of the skeleton is emphasized because of the opportunity it presents to combine and integrate the knowledge of both fossil and still existing animals. The bibliography which is classified to correspond to the chapter arrangement, covers 144 two-columned pages. Both students of comparative anatomy and general readers who are concerned in any manner with the subject will find the work of great interest and importance.

PATTERSON J T AND W S STONE

Evolution in the genus Drosophila. New York The Macmillan Company 1952 610 p. illus 22 cm. $8.50 580

Contents Introduction. The problem. The genus Drosophila. Geographical distribution and speciation. Chromosome evolution in the genus Drosophila. Salivary gland chromosomes. Gene variation, selection, and genic balance. Isolating mechanisms. The incompatibility reaction and other isolating mechanisms. Hybrids and hybrid sterility. Evolution in the virilis species group. Comparisons and conclusions. References. Index.

Note By serving as experimental material the fruitflies of the genus Drosophila have contributed much to the development of our present knowledge of genetics. In this book the mass of accumulated knowledge about this genus is reinterpreted from the standpoint of evidences of evolution. Although the authors state that they have omitted certain contributions, the treatment borders on the encyclopedic. The style is compact and the text is supplemented by many

than 100 tables. The bibliography runs to 38 pages. The work is major addition to the scientific literature of evolution.

SHULL AARON FRANKLIN

Evolution. Second edition. New York Mc Graw-Hill Book Company, Inc. 1951 322 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences E. J Boell, consulting editor) $5.50 581

Contents: The evolution concept over the centuries. Order in diversity among living things. Likeness implying kinship. Geographic distribution and the time and place of origin of species. Fossils explained by evolution. Origin of man. Mechanism of permanence and change. Primary variation. Genetic variation in wild populations. Recombination. Guidance of evolution. Isolation. Geographic races and speciation. Societies of beasts and men. Origin of life. Index.

Note: (1348) A simple, straightforward introduction. The role of the genes in evolution is stressed, but adequate attention is also given to other aspects. The book is designed and widely used as text for college courses, but it is equally suitable for first book for interested lay readers. The first edition was pioneer presentation from the genetic standpoint. In the present edition, published 15 years later, the chapters bearing on the genetic aspects has been largely rewritten. One of the principal changes is an account of polyploidy There are 141 figures and good index, but there is no bibliography

SIMPSON GEORGE GAYLORD

The meaning of evolution, a study of the history of life and of its significance for man. New Haven Yale University Press 1950 364 p. illus. 21 cm. (The Terry lectures) $4.00 582

Contents: Part I, The course of evolution. Geologic time. The beginnings of life Major outlines of the fossil record. The history of the vertebrates. Records and reductions of reptiles. Outlines of the history of mammals. The history of the primates. Rates of evolution. First conclusions from the record. Part II, The interpretation of evolution: The problem of problems. Oriented evolution: orthogenesis and trends. The opportunism of evolution. Racial life and death. Forces of evolution and their integration. The concept of progress in evolution. Historical retrospect: the evolution of evolution. Part III, Evolution, humanity and ethics: Man place in nature. The search for an ethic. The ethics of knowledge and of responsibility The future of man and of life. Epilogue and summary Index.

Note: Educated lay readers with more than superficial interests in evolution constitute the natural audience for this well-written, authentic book. Originally prepared and delivered at Yale University November, 1948, as the twenty-fifth series of Terry lectures, the material has been expanded and augmented without loss of the easy-to-read informal style of scientific lectures addressed to laymen. The evidence in support of evolution and the meaning of the evolutionary process to man are presented in synthesis that employs evidence from pertinent branches of science and an interpretation that points out the ethical and cultural values. The author is Chairman of the Department of Geology and Paleontology in the American Museum of Natural History and Professor of Vertebrate Paleontology at Columbia University

STEBBINS, GEORGE LEDYARD, JR.

Variation and evolution in plants. New York Columbia University Press, 1950 643 p. illus. 24 cm. (Columbia biological series. Number XVI. General editor L. C. Dunn) $8.00 583

Contents. Description and analysis of variation patterns. Examples of variation patterns within species and genera. The basis of individual variation. Natural selection and variation in populations. Genetic systems as factors in evolution. Isolation and the origin of species Hybridization and its effects Polyploidy—Occurrence and nature of polyploid types—Geographic distribution and significance of polyploidy Apomixis in relation to variation and evolution. Structural hybridity and the genetic system. Evolutionary trends—The karyotype—External morphology Fossils, modern distribution patterns and rates of evolution. Works cited Index.

Note An important contribution to the literature of evolution. It represents synthesis of knowledge from many fields, particularly paleobotany genetics, cytology and, of course, systematic botany Plant variation and evolution is shown to be complex process based on the accumulation of many small changes and taking place at three distinguishable levels which the author terms, variation, microevolution and macroevolution. The work is essentially masterly interpretation of the published literature including the author's own numerous papers. The list of works cited runs to 40 pages. The presentation is technical and is suited to advanced students and graduate scientists interested in such fields as evolution, genetics, and botany

GENETICS

ADVANCES IN GENETICS Volume III. Edited by M. Demerec. New York Academic Press, Inc. 1950 267 p. illus. 23 cm $6.80 584

Contents: Observations on the cytology of bacteria, by R. Delaporte. Biochemical genetics of Neurospora, by N. H. Horowitz. The phenomenon of position effect, by E. B. Lewis. The theory of genetical recombination, by A. R. G. Owen. Corn breeding, by F D Richey Parthenogenesis in animals, by E. Suomalainen. Author index. Subject index.

—— Volume IV Edited by M. Demerec. New York Academic Press Inc., 1951. 343 p. illus. 23 cm. $7.50. 585

Contents: Physiological genetics of the mouse, by S. Gluecksohn-Waelsch. Developmental action of lethal factors in Drosophila, by E. Hadorn. Localization and function of heterochromatin in *Drosophila melanogaster* by A. Hannah. The genetics of Coffea, by C. A. Krug and A. Carvalho. The chromosomes of the vertebrates, by R. Matthey Genic analysis and linkage relationship of characters in rice, by S. Nagao. Procedures and methods of cotton breeding with special reference to American cultivated species, by T R. Richmond. Possible significance of duplication in evolution, by S. G. Stephens. Cytogenetics of orthopteroid insects, by M. J. D. White. Author index. Subject index.

Note: (494) Two additional volumes in series which contains original monographs on selected genetic topics which are currently of interest to professional workers in the field. In most instances the author of the monograph has himself made valuable contributions to the subject of which he writes. However the papers always include the pertinent findings of other authors and are always accompanied by an extensive bibliography The papers are addressed not only to scientists who are actively engaged in research in genetics but also to workers in related fields such as plant breeding who desire to keep abreast of new developments. *Not all of the contributors are American;* witness volume IV in which Switzerland, Brazil, and Japan are represented as well as the U. S. A.

ANDERSON EDGAR

Introgressive hybridization. New York John Wiley & Sons, Inc., 1949 109 p illus. 22 cm. (Biological research series advisory board Paul A. Weiss and others) $3 50. 586

Contents Introgression in Iris: typical example. The ecological basis of introgression. The genetic basis of introgression. Introgression in fossil populations Introgression and evolution. Special techniques for the study of introgression. Epilogue. Bibliography Index.

Note: The term "introgressive hybridization" designates the repeated backcrossing of hybrids to one or both parents. This book is about the study of such hybridization in the field under natural conditions, that is, introgressive hybridization outside the laboratory and the breeding plot. It deals particularly with how the effects of hybridization can best be measured in natural populations and what is the nature of the forces at work in such populations. All relevant literature dealing with the problem (which has been given intensive study chiefly since 1939) is summarized. at the same time, good deal of the material is original

CLEVELAND LEMUEL ROSCOE

The whole life cycle of chromosomes and their coiling systems Philadelphia The American Philosophical Society 1949 100 p. illus. 30 cm. (Transactions American Philosophical Society New series—vol. 39 part 1) Paper $1.50 587

Contents: Introduction. The genus *Holomastigotoides*. Species of *Holomastigotoides* in *Prorhinotermes*. *Holomastigotoides* ...

cies several. Holomastigotoides diversa species several. Centrioles and achromatic figure. Relation of chromosomes to nucleoli. Relation of chromosomes to nuclear membrane. Single chromatids. Double chromatids. Discussion. Summary. References. Explanation of plates. Index.

Note: A thorough study of the complete life cycle of chromosomes. It is based largely on original studies made by the author but a critical digest of the pertinent literature is also incorporated. In the work the author clears up the details of a number of stages that have been heretofore treated only in general terms. Among his conclusions are "all chromosomes have minor and major coils; some have super coils; and some have supers in meiosis but not in mitosis. "The minor coils are the only ones that exist throughout the life cycle of the chromosome; major and supers (when present) disappear and reappear during each chromosomal generation. "Chromosomes are of two types, those with single and those with double chromatids. "Interphase and resting stages are not always synonymous. "There is no longer any question regarding the existence of terminal centromeres. There are 93 illustrations reproduced on 35 plates. All of the illustrations are reproductions of original drawings.

DOBZHANSKY THEODOSIUS

Genetics and the origin of species Third edition revised. New York Columbia University Press, 1951 364 p illus. 24 cm. (Columbia biological series. Number XI. Edited at Columbia University) $5 00 588

Contents: Organic diversity Heredity and mutation. *Mutation in populations.* Selection. Adaptive polymorphism. Race formation. Isolating mechanisms. Hybrid sterility Species as natural units. Patterns of evolution. Literature Index.

Note (1343) One of the chief books in the modern literature of evolution in which knowledge from various branches of biological science is synthesized. It is devoted particularly to the origins of variations in plants and animals and perpetuation of them by heredity The author emphasizes that "Mendelian populations" are the natural evolutionary units. *The second edition appeared in 1941* The book has been rewritten and reorganized in the present edition. *Although many pages shorter the scope is essentially the same.* The revised bibliography which now runs to 33 pages, is a valuable feature.

DUNN LESLIE CLARENCE, editor

Genetics in the 20th century essays on the progress of genetics during its first 50 years. Edited for the Genetics Society of America by L. C Dunn. New York The Macmillan Company 1951 634 p. illus. 22 cm. $5 00 589

Contents The impact of genetics upon science, by R. B. Goldschmidt. Gregor Mendel's life and heritage, by H Iltis. The knowledge of heredity before 1900, by C. Zirkle The beginnings of Mendelism in America, by W E. Castle. The development of the gene theory by H. J Muller The relation of genes and chromosomes, by A H Sturtevant The progress and prospect of biometrical genetics, by K. Mather Some chemical aspects of the cell nucleus, by A. E. Mirsky Cytochemical measurements in the study of the gene, by T Caspersson and J Schultz Genetics and immunology by M. R Irwin Chemical genetics, by G W Beadle. Remarks on cell heredity by B. Ephrussi. Genetic studies in bacteria, by J. Lederberg The role of the genes in cytoplasmic inheritance, by T M. Sonneborn Mendel and the determinants, by C. D Darlington. Evolution of cytogenetic mechanisms in animals, by M J. D White. Old and new pathways in human genetics, by L. H. Snyder Genetics of the human race, by L. S. Penrose Genetics and disease resistance, by *J W Gowen. Genetics* and the cancer problem, by C. C. Little. Genetics and plant breeding, by A Müntzing. Genetics and animal breeding, by J. L. Lush. Genetics and plant pathology by J C. Walker Hybrid corn its genetic basis and its significance in human affairs, by P C. Mangelsdorf Mendelian populations and their evolution, by T Dobzhansky Genetics, evolution, and human destiny by J Huxley Index.

Note A collection of original papers written for and presented at the Golden Jubilee of Genetics at Ohio State University in September 1950 Though the historical development of genetics is in the background of most of the papers, many of them deal with the current state of knowledge of a particular area within genetics. The book is addressed to advanced students of genetics and professional geneticists. Many of the papers are accompanied by substantial reference lists.

GOLDSCHMIDT, RICHARD BENEDICT

Understanding heredity an introduction to genetics New York John Wiley & Sons, Inc., 1952 228 p illus. 22 cm. $3 75 590

Contents. Hereditary and non-hereditary traits. The sex cells and fertilization. Elementary Mendelism. More on elementary Mendelism. Chromosomes and Mendelism. Linkage. Mutation. Sex chromosomes and sex-linked inheritance. Collaboration of genes. Summation or multiple factors. Multiple alleles. A glimpse of more technical facts and problems of genetics. Problems. Books for further study Glossary Index.

Note. Though an introduction, this book is not a popularization. In it the chief known facts pertaining to genetics are presented concisely but in sufficient detail so that a thorough reader will gain a clear understanding of the basic genetic mechanisms. The book is suitable for use either as a college textbook or as an introduction for serious general readers. Problems for students to solve are suggested in the back of the book.

GOLDSCHMIDT, RICHARD BENEDICT, AND OTHERS

The podoptera effect in Drosophila melanogaster By Richard B Goldschmidt, Aloha Hannah, and Leonie Kellen Piternick. Berkeley University of California Press, 1951 293 p illus. 26 cm. (University of California publications in zoölogy editors H. Kirby and others) Paper $2 25 591

Contents (abridged) Part I, Occurrence, material, morphology Part II, Penetrance and expressivity Part III, Genetic analyses. Part IV Dominance, paradominance, relation of podoptera to dominant mutants. Part V Specific features of podoptera H. Part VI, Discussion. Bibliography

Note: A detailed study of a group of homoeotic mutants in *Drosophila melanogaster* which have the effect of transforming the wings into leg-like structures. The authors identified five podoptera lines which they designate as tetraltera, podoptera G, podoptera H, podoptera K, and podoptera M. They show that podoptera types are practically ubiquitous in Drosophila and that the character is difficult to analyze genetically However they succeeded in carrying through many *statistical studies* on the genetics and the results are described and tabulated in this work which is of interest to biologists specializing in genetics.

GOWEN JOHN WHITTEMORE editor

Heterosis A record of researches directed toward explaining and utilizing the vigor of hybrids Ames Ia. Iowa State College Press 1952 552 p illus. 24 cm. $6 75 592

Contents: Early ideas on inbreeding and crossbreeding, by C. Zirkle. Beginnings of the heterosis concept, by G. H. Shull. Development of the heterosis concept, by H. K. Hayes. Preferential segregation in maize, by M. M. Rhoades. Inbreeding and crossbreeding in seed development, by R A. Brink *Physiology of gene action in hybrids,* by W G. Whaley Hybrid nutritional requirements, by W J Robbins. *Origin of corn belt maize and its genetic significance,* by E. Anderson and W L. Brown. Heterosis in population genetics, by A. A. Buzzati-Traverso *Fixing transgressive vigor in Nicotiana rustica,* by H. H. Smith. Hybridization in the evolution of maize, by P C. Mangelsdorf *Biochemical models of heterosis in Neurospora,* by S Emerson. Nature and origin of heterosis, by T Dobzhansky Plasmagenes and chromogenes in heterosis, by D F Jones. Specificity of gene effects, by M. R. Irwin. Genetics and cytology of saccharomyces, by C C. Lindegren. Genetic implications of mutations in *Salmonella typhimurium* by H. H. Plough. Dominance and overdominance, by J. F Crow Gene recombination and heterosis, by L. Powers Gene interaction in heterosis, by A. J. Mangelsdorf. Inbred lines for heterosis tests? by G. E. Dickerson. *Specific and general combining ability,* by C. R. Henderson. Rotational crossbreeding and heterosis, by L. M. Winters Genetic selection for specific combining ability by E. L. Pinnell and others. Monoploids in maize, by S. S Chase. Early testing and recurrent selection, by G F Sprague, *Heterosis in* a new population, by E. J. Wellhausen Recurrent selection and overdominance, by F H. Hull. Hybrid vigor in *Drosophila,* by J. W Gowen. Estimation of average dominance of genes, by R. E. Comstock and H. F Robinson. Bibliography Index.

Note: Original papers first presented in June, 1950 at Iowa State College are collected in this volume. The speakers and audience were drawn largely from scientists engaged in research on genetics, plant breeding, etc., and the papers are addressed to graduate scientists with similar interests. Bibliographical references for all the papers are collected in single bibliography

LERNER, I. MICHAEL

Population genetics and animal improvement as illustrated by the inheritance of egg production. New York. Cambridge University Press, 1950 342 p. illus. 22 cm. $5.50 593

Contents: Introduction. Historical: The genetic improvement in egg production. Early selection experiments. The partitioning of egg production records. The polygenic approach. The production index and its components. The University of California flock. The fundamental postulates of applied population genetics. Genetic relationship. Heritability The principles of selection. Expected genetic gains. Mating systems. The bases of selection. Interrelations between traits. Selection indexes. Miscellaneous: Disease resistance. The family structure of flocks under selection. The maintenance of unculled populations. Short-cuts in measurement. Special mating techniques. The outlook. Glossary of symbols and definitions. Bibliography and author index. Subject index.

Note: This is an important treatise in the field of applied population genetics based largely upon experimental work in poultry at the University of California. As the heart of the subject is of statistical nature, the reader or student of the book will need collegiate knowledge of genetics, including working facility in biometry and simple variance analysis, in order fully to follow the presentation. However the work is not entirely mathematical, and many parts of it will be intelligible to biologists and breeders without special training in mathematical genetics. The book is especially intended for research workers, teachers, and advanced students of genetics in relation to breeding.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON COMMON PROBLEMS OF GENETICS PALEONTOLOGY, AND SYSTEMATICS

Genetics, paleontology and evolution. Edited by Glenn L. Jepson, Ernst Mayr and George Gaylord Simpson. Princeton, N J Princeton University Press, 1949 474 p. 24 cm. $6.00. 594

Contents: I, *Geological time: Time in earth history* by *Adolph Knopf.* II, *Viewpoints on evolution: Gene and character* by Curt Stern. Gene homologies and the mutants of *Drosophila hydei*, by W P Spencer. The evidence afforded by fossil vertebrates on the nature of evolution, by D. M. S. Watson. Comparative anatomy and the evolution of vertebrates, by D. D. Davis. Some aspects of plant morphology and evolution, by Theodor Just. III, Evolutionary trends: Time series and trends in animal evolution, by A. S. Romer. On the evolution of the Dipnoi, by T. S. Westoll. Evolutionary rates and trends in rhinoceroses, by H. E. Wood, II. Evolutionary trends in the angiosperms, by R. W. Chaney IV Evolutionary rates: Rates of evolution in animals, by G. G. Simpson. Rates of evolution in plants, by G. L. Stebbins, Jr. Rates of evolution in taeniodonts, by Bryan Patterson. Speciation: Speciation and systematics, by Ernst Mayr. The significance of ecological isolation, by David Lack. Early stages in allopatric speciation, by E. B. Ford. Patterns of evolution in the genus *Rana*, by J A. Moore. Increased variability in populations following natural hybridization, by William Hovanitz. Evidence for the genetic submergence of *Pinus remorata*, by H. L. Mason. VI, Adaptation Adaptation and selection, by Sewall Wright. Progressive adaptations as seen in the fossil record, by E. H. Colbert. VII, Human evolution Human evolution, past and future, by J. B. S. Haldane. VIII, Summation: Reintegration of the Symposium on Genetics, Paleontology and Evolution, by H. J. Muller. Glossary Index.

Note: This work represents planned effort to synthesize thought from the fields of genetics and paleontology that has bearing on evolution and to resolve certain differences of terminology. The style of the papers is technical and the volume is intended chiefly for graduate scientists working in the three fields named in the title.

SINNOTT EDMUND WARE, AND OTHERS

Principles of genetics. Fourth edition. By Edmund W Sinnott, L. C. Dunn and Th. Dobzhansky New York McGraw Hill Book Company Inc., 1950 505 p illus. 24 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $6.00. 595

Contents: Genetics, the science of heredity and variation. Mendel's principle of segregation. Mendel's principle of independent assortment. Alleles. The expression and interaction of genes. The multiple-factor hypothesis. The physical basis of inheritance. Genes and chromosomes. Linkage and linkage maps. Chromosome aberrations and cytological maps of chromosomes. Mutation. Genes in populations. Genetics of race formation. Genetics of species formation. The determination of sex. Genetics and development. The cytoplasm in heredity and development. Gene action and the nature of the gene. Appendix. Index.

Note: (1378) The first edition of this work was published in 1925, and it has held place more than time as standard text for college courses. Though introductory it provides fairly detailed presentation of genetic mechanisms and their effects on heredity and variation. The three chapters on "Genes in populations, "Genetics of race formation, and "Genetics of species formation are new in this edition. Other important changes include rewritten presentation of chromosome mechanisms. The translation into English made by the Royal Horticultural Society of London of Mendel' *Experiments in plant hybridization* is quoted in full in the appendix.

SRB ADRIAN M., AND RAY D OWEN

General genetics. Illustrated by Evan L. Gillespie. San Francisco California W H. Freeman and Company 1952 561 p. illus. (part col'd) 24 cm. (A series of biology texts editors George W Beadle and others) $5.50. 596

Contents (abridged) Inherent patterns in living things. Units of inheritance. Two or more pairs of alleles. The impact of environment. Sex chromosomes and sex linkage. The vehicles of inheritance. Life cycles. Linkage, crossing over and chromosome mapping. Chromosomal aberrations and position effects. Mutations. Extranuclear inheritance. Genetic aspects of sexuality and sex determination. Quantitative inheritance. Inbreeding and selection. Genes and cellular biochemistry Genes and development. Heredity in populations. Genetics and evolution. Breeding better plants. Genetic aspects of animal productivity Genetics and the welfare of the human individual. Index.

Note: An introductory textbook for use in college courses. It is written in clear explicit style and the verbal exposition is supplemented by excellent illustrations. The scientific aspects of the subject are well presented. The authors have included much information on the applications of the knowledge of genetics to plant and animal breeding. An unusually wide selection of problems is included and the lists of references include short annotations.

BIOLOGICAL PHYSICS

FINK, ROBERT MORGAN, editor

Biological studies with polonium, radium, and plutonium. New York McGraw-Hill Book Company Inc., 1950 411 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI —Volume 3) $5.50 597

Contents: Part I, Distribution and excretion of polonium: Introduction, by H. E. Silberstein. General methods used in polonium distribution and excretion experiments, by A. T. Gorham and others. Polonium distribution and excretion experiments with animals, by H. E. Silberstein and others. Studies of polonium metabolism in human subjects, by H. E. Silberstein and others. Part II, Distribution and excretion of radium. Historical background, by H. E. Silberstein. General methods used in radium distribution and excretion experiments, by H. E. Silberstein. Radium distribution and excretion studies with rats, by H. E. Silberstein. Part III, Toxicity of polonium, plutonium, and radium in rats: Pilot studies on the intravenous lethal dosage of polonium, plutonium, and radium in rats, by G. A. Boyd and others. Simultaneous studies on the intravenous lethal dosage of polonium, plutonium, and radium in rats, by G. A. Boyd and others. Appendix. Index.

Note. The papers in this volume are summarized reports of experimental research carried out by the Biological Chemistry Section of the Manhattan Project at the University of Rochester. Experimental methods and procedures are described specifically. Results are presented in tables and graphs and are discussed in the text. Some references to related literature are included.

KAMEN MARTIN DAVID

Radioactive tracers in biology an introduction to tracer methodology Second edition revised and enlarged. New York Academic Press Inc. 1951 429 p illus. 24 cm. (Organic and biological chemistry a series of monographs edited by Louis F Fieser and Mary Fieser) $7 50. 598

Contents. Atomic nuclei, radioactivity and the production of radioactive isotopes. Radiation characteristics of tracer atoms. Procedures for radioactive assay Radiation hazards. Survey of tracer methodology—biochemical aspects—physiological and medical aspects. Radioactive hydrogen (tritium, H^3) Short-lived radioactive carbon (C^{11}) Long-lived radioactive carbon (C^{14}) Radioactive phosphorus (P^{32}) Radioactive sulfur (S^{35}) Alkali metal and alkaline earth tracers. Tracer isotopes of halogens Various radioactive isotopes of importance in biology Appendix: General bibliography Radioactivity units and standards. Some typical working rules for radiochemistry laboratory Radioactive nuclides of interest in biological tracer research. National Bureau of Standards radium E beta standards and their application to analysis of P^{32} and I^{131} Author index. Subject index.

Note: (507*) A well-documented work addressed primarily to graduate biologists who are engaged in biological research. In it the fundamental facts of radioactivity are presented; their applications to research problems in biology are evaluated; and the preparation, properties, and methods of using the more important radioactive isotopes are reviewed at length. The first edition appeared in 1947 Much material has been added in the present edition and parts of the first edition that have been carried over have been substantially revised. However the work remains an introductory survey rather than a comprehensive presentation of pertinent information. In addition to the bibliography of books included in the appendix, there are hundreds of footnote references to related literature.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON NUCLEAR SCIENCE. SUBCOMMITTEE ON RADIOBIOLOGY

Symposium on radiobiology the basic aspects of radiation effects on living systems Oberlin College June 14–18 1950. Edited by James J Nickson. Editorial committee P Morrison and others. Sponsored by the National Research Council of the National Academy of Sciences. New York John Wiley & Sons Inc., 1952 465 p illus. 24 cm. $7 50 599

Contents: Radiation in living matter—the physical processes, by P Morrison. Secondary electrons—average energy loss per ionization, by U Fano. Beams of high-energy particles, by R. R. Wilson. Neutrons and their special effects—recoil effects, by A. K. Solomon. General statements about chemical reactions induced by ionizing radiation, by R. Livingston. Chemical reactions in the gas phase connected with ionization, by M. Wallenstein and others. On the primary processes in radiation chemistry and biology, by R. L. Platzman. Elementary chemical processes in radiobiological reactions, by M. Burton. Influence of details of electronic binding on penetration phenomena, and the penetration of energetic charged particles through liquid water, by R. L. Platzman. Some aspects of the biochemical effects of ionizing radiations, by W M. Dale. Ionizing radiations and cellular metabolism, by G. Hevesy. The effect of ionizing radiations on some systems of biological importance, by E. S. Guzman Barron. Some factors influencing cell radiosensitivity by acting at the level of the primary biochemical action, by R. Latarjet. On the localization of radiation effects in molecules of biological importance, by M. D. Kamen. Recent evidence on the mechanism of chromosome aberration production by ionizing radiations, by N. H. Giles, Jr. Physical and chemical factors modifying the sensitivity of cells to high-energy and ultraviolet radiation, by A. Hollaender. Gene mutations caused by radiation, by H. J. Muller. Speculations on cellular actions of radiations, by R. E. Zirkle. The dependence of some biological effects of radiation on the rate of energy loss, by C. A. Tobias. The influence of quantity and quality of radiation on the biologic effect, by T. C. Evans. Some physiological factors related to the effects of radiation in mammals, by H. B. Jones. Mammalian radiation genetics, by W L. Russell. Analysis of mammalian radiation injury and lethality by A. M. Brues and G. A. Sacher.

Note: A collection of original papers which are accompanied by literature references and also transcripts from the discussions at the meeting mentioned in the title. The object of the symposium and of the volume was to present the current state of knowledge in radiobiology and to indicate hypotheses that require further research. The papers are addressed to advanced research workers in physics, chemistry and biology who are concerned with radioactive aspects and also to other graduate scientists interested only in keeping informed about progress in the field.

RASHEVSKY, NICOLAS

Mathematical biology of social behavior Chicago The University of Chicago Press, 1951 256 p illus. 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine, Emmet B Bay and others) $5 00 600

Contents: Part I, Brain mechanism and behavior: The central nervous system. Conflicting stimuli. Applications of the foregoing to psychometric methods. Learning. Satisfaction and hedonistic behavior Part II, Social hierarchies: Peck-order. Distribution of wealth. A general theory of social distributions. Distribution of conservative quantities, due to chance. Formation of social classes. Part III, Imitative behavior Behavior of a social group, in which individuals imitate one another. A different approach to the foregoing problem. Some possible generalizations and approximations. Part IV Motivational behavior: Altruistic and egoistic societies. Another case of altruistic and egoistic societies. Other types of motivational interactions. Possible relation between imitative and motivational behavior. Some examples based on motivational behavior Part Learned behavior Some aspects of learning of social behavior The learning curve of a social group. Acceptance on faith versus rational thinking. Interaction of imitation and learning. Freedom. Part VI, Miscellaneous problems: Heredity effects in social changes. Some general considerations on social dynamics. A simplified mathematical model of socioeconomic dynamics. General conclusions. Index.

Note. (508*) The author in this work develops further the postulates presented in his *Mathematical biophysics*, 1948, rev. ed., and *Mathematical theory of human relations*, 1948. Part contains a brief outline of the mathematical biophysics of the central nervous system, especially for the benefit of readers unfamiliar with the subject. In Part II is developed a mathematical approach to the problem of social hierarchies. The developments of Parts III, IV are based directly on the mathematical biophysics outlined in Part I, the behavior of an individual in a social group and the behavior of the group as a whole being interpreted in terms of neurobiophysical mechanisms, and the growth of cultures being interpreted in terms of phenomena which take place in the nervous system of the individual. This leads to suggestions as to how biological measurements, made on large groups of individuals, may lead to the prediction of some social phenomena. The developments are presented largely in mathematical formulas and equations. Bibliographical references are given at the ends of the chapters.

SCHWEITZER, GEORGE KEENE AND IRA B WHITNEY

Radioactive tracer techniques. New York D Van Nostrand Company Inc. 1949 241 p illus. 22 cm. $3.50 601

Contents (abridged) Working in a radiolaboratory Basic experiments. The Lauritsen electroscope. The Geiger-Mueller counter Characteristics of beta particles. Measurement of radioactive liquids. Determination of low energy beta particles. The separation of radioelements. The chemical behavior of micro-quantities. Chemical experiments: Solubility determinations. Exchange reactions. Quantitative analysis with radioindicator Analyses by isotopic dilution. Transference number Distribution ratios. The chemical effects of radiation. Physical experiments: Half-thickness of gamma rays. Long half-life measurements. Short half-life measurements. Friction studies. The concentration of radioisotopes by recoil. Separation of nuclear isomers by recoil. Biological experiments: Plant radioautographs. Excretion and deposition studies. Deposition of iodine in the

thyroid. Body fluid volume and absorption. Special preparations. Appendices. Index.

Note: A laboratory manual for use in introductory laboratory courses offered to advanced students of biology chemistry and other fields where radioactive isotopes are used in research. The fundamentals are presented in the first four chapters, and the next four chapters describe 28 different experiments planned so that they require only the most readily available radioactive materials. The appendices contain useful general information for radio laboratories, including a list of supplies of apparatus, etc. Bibliographical references appear at the ends of the chapters and at the ends of the experiment descriptions.

SIRI WILLIAM E AND OTHERS

Isotopic tracers and nuclear radiations, with applications to biology and medicine. By William E Siri. With contributions by Ellsworth C. Dougherty [and others] New York McGraw Hill Book Company Inc., 1949 653 p Illus. 23 cm. $15.00 602

Contents (abridged) Part I, Isotopes and nuclear radiations: Properties of nuclei. Gamma rays. Beta particles. Protons, deuterons, and alpha particles. Neutrons. Part II, Methods and instruments: Indirect methods for measuring deuterium, by J. R. Robertson. Mass spectrographs. Geiger Muller counters. Proportional counters. Ionization chambers. Standardization of radioactive samples, by C. A. Tobias. The radioautograph, by P P Weymouth. Internal dosimetry. The preparation of thin films of radioactive elements by electrolysis, by R. W Dunn. The treatment of biological tissues for recovery of radioactive elements, by R. W Dunn. The safe handling of radioactive materials. The electrostatic generator. The cyclotron. The betatron. The synchrotron. Part III, Biological and medical applications of isotopes: General critique of the biological application of isotopes, by E. C. Dougherty. Elements constituting major mineral metabolites, by E. C. Dougherty. Trace elements known to be essential in animals and plants, by E. C. Dougherty. Elements not known to be essential to life, by E. C. Dougherty. Isotopes in therapy and diagnosis, by E. C. Dougherty. Bibliography. Index.

Note: A technical reference book of comprehensive scope intended for the scientist using isotopic tracers and nuclear radiations in medical and biological research. Much of the data is presented in tables with accompanying text and figures. Underlying physical principles, practical methods of applications, with descriptions of processes and instruments, are covered compactly. The 90-page bibliography was compiled by E. C. Dougherty. The Seaborg and Perlman table of isotopes covers pages 187–210 at the end of Part

UBER, FRED MUNEY, editor

Biophysical research methods. New York Interscience Publishers Inc., 1950. 667 p. 24 cm. $9 50 603

Contents: Avoid fruitless experiments, by F M. Uber. Osmotic pressure measurements, by D. R. Briggs. Centrifugation, by E. G. Pickels. Viscosity measurements, by L. V Heilbrunn. Temperature determinations, by L. R. Presty and J. D. Hardy. Calorimetric measurements, by Max Kleiber. Quick-freezing and the freezing-drying process, by E. W Flosdorf. Dielectric measurements, by H. J. Curtis. Electrophoresis, by D. R. Briggs. Ultrasonic vibrations, by E. G. Gregg, Jr. When to use special microscopes, by O. W Richards. Electron microscopy by James Hillier. Action spectra, and absorption spectra, by H. F Blum. X ray and X irradiation, by J W Cowan. Electrons, neutrons, and alpha particles, by L. G. Gray. Stable isotopes as tracers, by F M. Uber. Radioactive tracers, by A. F Voigt. Subject index

Note A full-scale presentation of physical laboratory methods which are applicable to research in biology medicine, and agriculture. The authors of the various chapters have assumed that their readers will be familiar with standard laboratory methods and instruments. These papers are addressed to such readers as graduate students of the sciences, laboratory assistants, and experienced research workers who need guidance in the use of recently developed methods. Literature references accompany all of the chapters, and some of the chapters are supplemented by lists of sources of supply

BOTANY

GENERAL

Anderson Edgar

Plants man and life. Boston Little Brown and Company 1952 245 p illus. 20 cm. $4 00 604

Contents Man and his transported landscapes. The history of weeds—a detective story The greater paradox. The clue from the root tips. The clue from diversity or science and the bureaucrats. How to measure an avocado. Budgets vs. scholarship. Uneconomic botany Dump heaps and the origin of agriculture. A roster of our most important crop plants and their probable origins. Sunflowers—the one native American crop. Adventures in chaos. Suggested reading. Index.

Note A well-written popular book about botany and the work of professional botanists. There is some emphasis on matters which would classify as economic botany however one of the outstanding chapters describes statistical method of studying plant variations. Any mature reader interested in plants will find the book to be rewarding reading. Furthermore, it can be studied as an example of the interpretation of science for lay readers. The author is Assistant Director of the Missouri Botanical Garden.

Clements Frederic Edward

Dynamics of vegetation selections from the writings of Frederic E Clements Compiled and edited by B W Allred and Edith S. Clements. New York The H. W Wilson Company 1949 296 p illus. 23 cm. $3 75 605

Contents Plant succession and human problems. Competition in plant societies. Plant indicators Nature and structure of the climax The relict method in dynamic ecology Climaxes, succession and conservation. Climatic cycles and human populations in the Great Plains. Ecology in the public service. Glossary Index.

Note A compilation of previously published writings by botanist who made life-long study of ecology first at the universities of Nebraska and Minnesota, later and until his death at the Carnegie Institution of Washington. The illustrations are from photographs and are reproduced on 70 plates, two to plate.

Finan John J

Maize in the great herbals. With a foreword by Edgar Anderson. Waltham Mass. The Chronica Botanica Company 1950 191 p illus. 26 cm. $3.00 606

Contents (abridged) Maize in post-conquest Hispanic America Descriptions of maize by Spanish chroniclers. Use of maize by the natives of the New World. Maize in the great herbals of Europe Discussions of maize in the herbals—The German herbalists—Herbalists in the Low Countries—The Italian herbalists—The Spanish herbalists—The herbalists in Switzerland—The English herbalists. Appendices The woodcuts of the great herbals. Passages from original texts quoted and translated. Bibliography

Note A scholarly study of the history of the introduction of maize into Europe. It is based on detailed study of descriptions and illustrations in herbals. The author shows that two general types of maize are represented in these works, one of which may have been brought to Europe from Asia, the other of which was undoubtedly brought to Europe from America by Columbus and other Hispanic explorers. The book is thoroughly documented, also it contains reproductions of about 25 illustrations of the maize plant that originally appeared in the herbals.

Gray Asa

Gray's manual of botany Eighth (centennial) edition—illustrated. A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada. Largely rewritten and expanded by Merritt Lyndon Fernald with assistance of specialists in some groups. New York American Book Company 1950 1632 p. illus. 23 cm. $9 50 607

Contents Preface. Synopsis of the orders and families of vascular plants. Artificial analytical key to the families. Explanations of abbreviated names of authors. Other abbreviations and signs. Summary of the families. Descriptive flora. Glossary Index to Latin names of families, genera and species Index to English, French-Canadian and colloquial names.

Note. Forty-two years have passed since the publication of the seventh edition of this classical reference book. Since the period was one of the most active in botanical research on the part of both professional botanists and amateurs, the changes in this edition are many In the seventh edition 4,[illegible] species, varieties, and some forms were described the comparative number for this edition is 8,000. The number of illustrations has been increased to 1,806. In addition, important changes have been made in grouping, nomenclature, and illustrations. The book remains the standard systematic description of the flora found in the regions named in the subtitle.

Johansen Donald Alexander

Plant embryology embryogeny of the Spermatophyta. Waltham Mass. The Chronica Botanica Company 1950 305 p. illus. 27 cm. (A new series of plant science books, edited by Frans Verdoorn. Volume XXIV) Paper $6 00 608

Contents Introduction. Cycadophyta. Ginkgophyta. Coniferophyta: Pinaceae. Araucariaceae. Sciadopityaceae. Taxodiaceae. Cupressaceae. Saxegothaeaceae. Podocarpaceae. Pherosphaeraceae. Cephalotaxaceae. Taxaceae. Ephedrophyta: Ephedraceae. Gnetaceae. Welwitschiaceae. Anthophyta General considerations. Types and variations. Special and comparative embryology Apomictic embryogeny Adventitious embryogeny Polyembryony Glossary Index to phyla, orders, and families. Index to genera and species. Recapitulatory tables.

Note. A systematic discussion and summary of knowledge in the field of the embryology of gymnospermous and angiospermous plants. It is limited to consideration of embryogenesis, embryotectonics, embryonomy and embryonomy with occasional reference to such topics as megagametogeny and fertilization. References to the literature in English, French, German, and Italian are found at the ends of the sections. The original manuscript was completed in 1944; additions were subsequently made to bring the literature up to the end of 1944.

Kelley Arthur Pierson

Mycotrophy in plants lectures on the biology of mycorrhizae and related structures. Waltham, Mass. The Chronica Botanica Company 1950 223 p illus. 23 cm. (A new series of plant science books edited by Frans Verdoorn. Volume XXII) $5.00 609

Contents The rise of mycotrophic study The occurrence of mycorrhizae. The fungal endophytes. Fossil mycorrhizae. Distribution of mycotrophic plants. Mycotrophic plants and their environ-

ment. Mycothalli and mycorrhizomes. Mycodomatia. Structure of mycorrhizas. Obligate symbiosis. Theories of mycotrophy. Mycotrophic phagocytosis. Bibliography. Subject index. Index of plant names.

Note: A survey of the current knowledge of mycotrophy. The author believes that the mycorrhizas represent type of fungus symbiosis and that they are essential to the existence of many host plants. However, he also presents the conflicting views held by other authorities. Although organized as lectures under the subheadings noted above, the book is essentially digest of the published literature down to 1947

LAWRENCE, GEORGE HILL MATHEWSON

Taxonomy of vascular plants. New York The Macmillan Company 1951. 823 p. illus. 22 cm $7 95 610

Contents: Part I, Principles and practices of plant taxonomy: Introduction. Taxonomy and its significance. History of classification. Principles of taxonomy. Phylogenetic considerations. Current systems of classification. The geography of vascular plants. Biosystematics and cytogenetics. Plant nomenclature. Plant identification. Field and herbarium techniques. Monographs and revisions. Floristics. Literature of taxonomic botany. Part II, Selected families of vascular plants: *Pteridophyta. Embryophyta Siphonogama—Gymnospermae—Angiospermae.* Appendixes: Suggested syllabus for elementary course. Illustrated glossary of botanical terms. Index.

Note: A basic textbook for college students who are majoring in systematic botany. Its organization and scope render it suitable also for use as reference book in personal and public libraries. The first part runs to page 311 and includes the theoretical and general material as well as useful guide to the professional literature. The second part runs from page 313 to 713 and consists of taxonomic descriptions with illustrations and literature references for considerable range of plant families. An extensive glossary with illustrations occupies pages 737 to 774. The author is Professor of Botany at the Bailey Hortorium of Cornell University

SASS JOHN EUGENE

Botanical microtechnique. Second edition. Ames The Iowa State College Press 1951. 228 p. illus. 23 cm. $3.50 611

Contents: Part I, General principles and methods: Introduction. Collecting and subdividing plant materials. Killing, fixing, and storing plant tissues. Dehydration for embedding. Infiltration and embedding in paraffin wax. Microtome sectioning of material in paraffin. Staining paraffin sections. The celloidin method. Sectioning unembedded tissues. The preparation of whole mounts and smears. Criteria of successful processing. Part II, Specific methods: Introduction. Vegetative organs of vascular plants. Thallophyta and Bryophyta. Reproductive structures of vascular plants. Microscope construction, use, and care. Photomicrography. Index.

Note. An introductory manual designed primarily for use in instruction rather than for reference. Nevertheless the descriptions of techniques are specific and few selected formulas are included. The author is Professor of Botany in Iowa State College.

TEXTBOOKS

FULLER, HARRY JAMES

The plant world a text in college botany Revised edition New York Henry Holt and Company 1951 769 p. illus. 22 cm. $5.25 612

Contents (abridged): Part 1 The structure, physiology and reproduction of flowering plants: The nature of plant science. Seed structure and germination. The gross structure and activities of seed plants. The microscopic structure of plants. The physiology of plant cells. The structure and physiology of roots. The structure of stems. The properties and uses of wood. The structure and economic importance of leaves. Metabolism. Growth and irritability. The structure and functions of flowers. Fruit development and structure. Part 2 The plant kingdom: The classification of plants: Algae—bacteria (Schizomycophyta)—Myxomycophyta (slime fungi)—Bryophyta—Psilopsida—Lycopsida—Sphenopsida—Pteropsida—Gymnospermae—Angiospermae. Part 3 The distribution of plants in time and space: Plant evolution. The relations of plants to their environments. Appendix. Glossary. Index.

Note: A clearly written and well-illustrated work which is intended for use in short introductory courses. About twice as much space is given to anatomy and physiology as to taxonomy. The first edition appeared in 1941. In this edition the descriptions of the various plant phyla have been somewhat enlarged. Also substantial number of illustrations have been added, and in the appendix there are new short discussions of the growing of plants in nutrient solutions and the production of seedless fruits by the treatment of flowers with hormones and other chemicals.

FULLER, HARRY JAMES, AND OSWALD TIPPO

College botany New York Henry Holt and Company 1951 993 p illus. 24 cm. $6 75 613

Contents (abridged): Part I, The nature of plants and plant study. Part II, The structure, physiology and reproduction of flowering plants: Seed structure and germination. The microscopic structure of plants, cells and tissues. The physiology of plant cells. Soils and the relations of roots to soils. The internal structure of stems. The properties and uses of wood—economic importance of stems. The structure and economic importance of leaves. Metabolism. Growth and irritability. The structure and functions of flowers. Fruit development and structure. Variation and heredity in plants—plant breeding. Part III, The plant kingdom: Plant names and classification. Thallophyta. Plant diseases. Bryophyta. Tracheophyta. Part IV, The distribution of plants in time and space. Part Plants and man. Glossary. Index.

Note: A textbook for use in full-length introductory courses in colleges. In it the authors have striven to meet the needs of both students who are studying the subject for cultural reasons and those who plan to pursue the subject further than an introductory course—hence the inclusion of material on such topics as the uses of wood as well as on such topics as plant physiology. There is fair number of illustrations. Lists of additional readings are included, and the 26 page glossary is useful feature.

HILL JOHN BENJAMIN AND OTHERS

Botany a textbook for colleges. By J Ben Hill the late Lee O Overholts and Henry W Popp Second edition. New York McGraw Hill Book Company Inc., 1950 710 p. illus. 24 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $6 00 614

Contents (abridged): Part I, Structure and physiology of seed plants: Coloration in plants. Plant cells. Leaves. Metabolism—food synthesis. Roots. Absorption of water and inorganic salts. Stems. Growth and movement. Flowers. Fruits, seeds and seedlings. Part II, The plant groups: Plant classification and nomenclature. Thallophyta. Bryophyta. Tracheophyta or vascular plants. Families of angiosperms. Glossary. Index.

Note (1420) An introductory textbook for full-length college courses. No single aspect of the subject is emphasized; instead, the student is given broad view of the field and, also, considerable detailed information. In this edition material has been added on selected developments that have occurred since 1936 including antibiotics, hormones, and the uses of radioisotopes in botanical research. Several chapters have been rewritten, and many of the 335 figures have been improved.

HYLANDER, CLARENCE JOHN AND ORAN B STANLEY

College botany a basic course in plant science. New York The Macmillan Company 1949 638 p. illus. 24 cm. $5.50 615

Contents (abridged): Part one, The plant organism. The plant cell. Leaves. Synthesis of food. Roots. Absorption of inorganic materials. Conduction of substances. Water loss from plants. Plant responses. Reproduction by vegetative propagation. Seeds and seed production. Part two, The plant world. The classification of plants. Schizophytes—the most primitive plants. Chlorophytes—the green algae. Mycophytes—plants without chlorophyll. Bryophytes—amphibians of the plant world. Spermatophytes—plants with seeds. Gymnosperms—cone-bearing plants and their relatives. Angiosperms. Plant communities and plant succession. Heredity as factor in plant evolution. Environment as factor in plant evolution. Plant life through the ages. Appendix. Check list of common and scientific names of plants described in the text. Index.

Note. A well-balanced introductory text. A little over one third of the space is used for discussion of classification and descriptions of main plant groups. The remainder is devoted to discussions of general aspects as indicated by the chapter titles. There are 433

illustrations, all of good quality. The second-named author is Associate Professor of Botany at Colgate University and the first-named was formerly Chairman of the Botany Department in the same university.

ROBBINS, WILFRED WILLIAM, AND T ELLIOT WEIER

Botany an introduction to plant science. New York John Wiley & Sons Inc. 1950 480 p. illus. 25 cm. $6.00 616

Contents. Introduction. The plant world. Classification and naming of plants. The plant body of seed plants. The plant cell. The stem. The roots. The leaf. The flower. The fruit, seed, and seedlings. Inheritance. The plant as a living mechanism. The groups of plants. The flowering plants. The algae. The fungi. The viruses. The bryophytes. The vascular plants. Evolution. Index.

Note. A college textbook which is shorter and more lavishly illustrated than some textbooks written at this level. It is suited to the needs of students whose main interest in the subject is cultural. Its simplicity also suits it to the needs of some lay readers who wish to study the subject without the benefit of an instructor. The authors are members of the faculty of the College of Agriculture of the University of California.

WILSON CARL L

Botany With line drawings by Hannah T Croasdale. New York The Dryden Press 1952 483 p illus 26 cm. $6.50 617

Contents. The science of botany. Plants, their nature and use. The plant plan and its modifications. The cell as the basis of plant life. The matter and mechanics of cells. Photosynthesis and the leaf. Respiration and digestion. The structure and growth of stems. Plants and water. The root and the soil. Natural cycles and plant life. Growth and movement. Vegetative reproduction. The flower and seed production. The fruit, the seed, and seed germination. Plants in their environment. How plants inherit. The mechanisms of evolution. The names and kinds of plants. The algae. The bacteria. Bacteria and man. The fungi. The liverworts and the mosses. The ferns. Early land plants and their evolution. The club mosses and the horsetails. The gymnosperms. The angiosperms. Glossary. Index.

Note. An introductory textbook written at the college level and designed primarily for students who do not plan to major in botany. A general but fairly comprehensive view of the field is given with the emphasis on basic knowledge and functions rather than classification. The illustrations are of excellent quality and are numerous. The printing is in red and black. The author is Professor of Botany in Dartmouth College.

BOTANY OF VARIOUS REGIONS

ABRAMS LEROY

Illustrated flora of the Pacific states Washington Oregon and California. In four volumes Volume III Geraniaceae to Scrophulariaceae, geraniums to figworts. Stanford Calif Stanford University Press 1951 866 p. illus 28 cm. $17 50 618

Contents (abridged). Choripetalae (continued). Sympetalae. Appendix. Index of genera and families.

Note. (1434) The third volume published of a monumental reference book designed for the use of professional botanists and others who are interested in the native plants of the Pacific states of the United States of America. It is intended to include descriptions of every species of fern, flower, tree, and shrub known to grow wild in these states. The organization is systematic and the plant descriptions are couched in the scientific terminology of botany. However the author has given not only the scientific names but also English and Indian and Spanish-Californian names. The illustrations are clearly reproduced in black-and-white line drawings.

BILLINGTON CECIL

Ferns of Michigan Bloomfield Hills Mich. Cranbrook Institute of Science 1952 240 p illus. 24 cm. (Cranbrook Institute of Science. Bulletin no 32) $5 00 619

Contents: Introduction. Pictorial glossary. Systematic check-list. The ferns of Michigan. Hybrids. Michigan's fern flora as compared with that of North America. Glossary. Fern literature. Index.

Note. Essentially a systematic description of ninety species of ferns indigenous to the state of Michigan. Particular attention is given to identification and distribution and each description is accompanied by line drawings and distribution maps. The book is written primarily for amateur botanists and gardeners, and includes material on the collection and cultivation of ferns in the home garden. However, the detailed tabulations of species names and distribution are also of value to the professional botanist.

BILLINGTON CECIL

Shrubs of Michigan. Second edition. Bloomfield Hills, Mich. Cranbrook Institute of Science, 1949 329 p illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. 20) $4.50. 620

Contents: Introduction. Ecology. Distribution. Rare or infrequent species. Plant names and their authors. Plant names and their origin. The form and structure of shrubs. Keys to the genera of Michigan shrubs. Shrubs of Michigan. Glossary. Bibliography. Index.

Note. Although intended primarily for amateur use and limited to the shrubs that have been found in the state of Michigan, this work is of more than local interest. Many of the shrubs described are found also in many other states of the United States and in Canada. Drawings of the leaf, fruit and (sometimes) the flower are included for most of the plants described. The descriptions include the botanical name, the local popular name, information on the growth of flowering and of ripening of the fruit in addition to descriptions in botanical terminology of the plant itself. The first edition was published in 1943. A number of new descriptions have been added in this edition and many descriptions carried over from the previous edition have been revised or augmented.

CLOKEY IRA WADDELL

Flora of the Charleston Mountains, Clark county Nevada. Berkeley and Los Angeles University of California Press 1951 274 p. illus. 27 cm. (University of California publications in botany editors H. L. Mason and others Vol. 24) $3 75 621

Contents: Introduction. History of botanical exploration. The Charleston Mountains. Vegetational and floristic considerations. Vascular plants of the Charleston Mountains: Pteridophyta, Spermatophyta. Index.

Note. A detailed professional study of the flora of an isolated mountain range in the northern part of the Mojave Desert. In the middle and higher elevations the region contains a flora which has been botanically isolated for many thousands of years. The author made field studies and extensive collections in the years 1935–1942. He was aware of the significance of the ecological aspects but most of the present book is devoted to systematic descriptions of the collected plants. A map of the region studied is included.

GENTRY HOWARD SCOTT

Land plants collected by the Velero III, Allan Hancock Pacific expeditions 1937–1941 Los Angeles California The University of Southern California, 1949 245 p illus. 24 cm. (Allan Hancock Pacific expeditions. Vol. 13 number 2) $3.25 622

Contents. General introduction. Channel islands. Cedros and San Benito islands. Revilla Gigedo islands. Tres Marias islands. California Gulf region. Jalisco and Oaxaca. Costa Rica. Plates. Index.

Note. The Allan Hancock Pacific expeditions 1933–1941 were primarily concerned with marine biology. Nevertheless, some incidental land plant collections were made and are described in this volume. The book contains both generalized descriptions of the flora of particular islands and other land areas and short descriptions of species. It has both ecological and taxonomic interest.

HOWELL JOHN THOMAS

Marin flora. Manual of the flowering plants and ferns of Marin county California. Photo-

graphs by Charles T Townsend. Berkeley Calif University of California Press, 1949 322 p illus. 22 cm. $4.50 623

Contents (abridged) Introduction: Location and physiographic features. Geologic structure and rocks. Soils. Climate and weather. Life zones and plant associations. Effect of fire. Numerical analysis of the flora. Geographic distribution of plants in Marin county. Marin county flora and flora of Coast Ranges. Endemic plants. Naturalized plants. Early botanical explorers. Later botanical explorers. Key to the groups and families. Enumeration of the flora. Principal references. Glossary of technical terms. Index: scientific and common names in the enumeration of the flora. Map of Marin county California. Place names on map of Marin county. Mt. Tamalpais and vicinity. Place names on map of Mount Tamalpais and vicinity

Note: Marin county is the county occupying the peninsula immediately to the north of the Golden Gate. It covers 529 square miles, yet it is estimated its flora represents approximately 21% of the flora of the entire state of California. This volume is complete guide to the flora of the county published for amateur and professional botanist alike. Following the introductory pages, the plants of the county are named in systematic order and after the name are recorded the localities in Marin county where found, with occasional other descriptive and taxonomic notes. Keys are provided for the identification of families, tribes, genera, and species, with an extensive glossary for those unfamiliar with the language of botany. The book is based upon field work by the author in Marin county over ten-year period. Totals of 1313 species and 144 named varieties and forms are recognized. The 15 photographic plates show landscapes and plants, especially trees, of the county.

JOHNSTON, IVAN MURRAY

The botany of San Jose Island (Gulf of Panama) With seventeen plates and two text figures. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1949 306 p. illus. 25 cm. (Sargentia. A continuation of the Contributions from the Arnold Arboretum of Harvard University No. 8) Paper $6.00 624

Contents: Physical features and history of the island. General characteristics of the flora. Types of natural vegetation. Grassland. Thicket. North forest. South forest. Marine forest. Deciduous forest and other vegetation on thin soil. Streamside forest. Coastal-swamp forest. Beach vegetation. Growth on clearings. Immigrant weeds. Economic plants. Natural history of forest vegetation. The forest floor. Strata in the forest canopy. Tree trunks. Vines and their role in the forest. Epiphytes. Ant plants. Display of flowers. Characteristics of tropical foliage. Fall and renewal of leaves. Fruits and seeds in beach drift. Identification. Key to the trees and shrubs. Key to the vines. Key to the orchids. Catalogue of flowering plants. New botanical names. Index.

Note A treatise that provides detailed descriptions and discussion of the vegetation and flora of San Jose, an island 3 miles long about 50 miles off the Pacific end of the Panama Canal. The study was initiated in 1944 because of the location on the island of tropical testing ground for the Chemical Warfare Service of the United States Army. The data are presented with minimum of botanical phraseology so that Army personnel working in the forests of the island and other visitors from the United States may find the report as intelligible as the professional botanist. Technical matter interesting only to botanists is included, but appears in segregated paragraphs, so that the general reader may skip it. The catalogue of flowering plants, which comprises about three-fourths of the text, contains descriptions of 631 species known to grow without cultivation on the island. Included in the account of each species are the author's observations regarding its behavior and distribution on the island, together with some descriptive details useful in identifying the plant.

JONES GEORGE NEVILLE

Flora of Illinois. Second edition. Notre Dame The University of Notre Dame Press, 1950 368 p. 24 cm. (The American midland naturalist. Monograph no 5 Edited by John D Mizelle) $4.25 625

Contents: Flora and vegetation. Description of the area. Vegetational divisions. Systematic treatment. Key to the sections. Key to the families. Keys to the genera and species. Bibliography. Taxonomic monographs and revisions. Author index. Glossary. Index of plant names.

Note: A manual based on material in the herbarium of the University of Illinois and in other herbaria in the state. It covers all native and naturalized species of vascular plants recorded by the writer as growing spontaneously in Illinois. Approximately twenty-two hundred species are described. The descriptions are in technical terminology and the arrangement is conventional. Numerous keys are included to facilitate identification. The bibliography includes the taxonomic monographs that are useful in the study of Illinois plants. Since the flora of Illinois is similar to the flora of considerable adjacent area, the work is of some interest to botanists making studies outside of that state.

KEARNEY, THOMAS HENRY, AND OTHERS

Arizona flora. By Thomas H. Kearney Robert H. Peebles, and collaborators. Berkeley and Los Angeles University of California Press 1951 1032 p illus. (part col d) 24 cm. $7.50 626

Contents: Introduction. Botanical exploration. Part one, The physical background and vegetation of Arizona. Topography. Geology and soils. Climate. Vegetation in relation to physical conditions. Life forms. Part two, The flora of Arizona: Plan of the book. Geographic elements of the flora. Taxonomic composition of the flora. Key to the phyla. Pteridophyta—ferns and fern allies. Spermatophyta—flowering plants. Plates. Literature consulted. Glossary. Index.

Note: A work designed as reference book to be used in identifying "the approximately 3,370 species of flowering plants, ferns and fern allies known to be growing (or to have grown) without cultivation in the state of Arizona." A diverse flora ranging from arctic-alpine to subtropical is covered, reflecting the great ranges of altitude, rainfall, and soils found within the state of Arizona. Keys to families, genera and species are special feature of the book. Geographical range is indicated for not only the state but also adjoining states. The illustrations consist of the frontispiece in color and 45 black-and-white reproductions of photographs.

MCMINN HOWARD EARNEST

An illustrated manual of California shrubs. Berkeley Calif University of California Press 1951 663 p. illus. 24 cm. $6.50 627

Contents: Introduction. Key to the genera. Key to the families. Descriptive account of the shrubs: 1, Gymnosperms, or cone-bearing shrubs and their allies. 2 Angiosperms, or true-flowering shrubs. Addenda. Glossary of botanical terms. Index to names of species. Nomenclatorial changes. Bibliography. Index.

Note A systematic and descriptive account of the shrubs of California, written on the basis of twenty years of study of them in their native habitats. About 800 species are included, and the number of separate illustrations runs to 775. The work is of more than local interest, for most of the plants described are found in other regions also. The above is the second printing of the title, which was copyright by the author in 1939 and first published in that year by J. W Stacey Inc.

SHREVE, FORREST

Vegetation of the Sonoran desert. Washington, D C. Carnegie Institution of Washington 1951 192 p. illus. (part col d) 25 cm. (Carnegie Institution of Washington. Publication 591 Vegetation and flora of the Sonoran desert, by Forrest Shreve and Ira L. Wiggins. Vol. 1) Paper $3.25 628

Contents: Introduction. Physical features: Geography. Drainage systems. Mountain ranges. Climate. Soils. Perennial vegetation: General characteristics of deserts. The North American desert and its parts. Vegetational features of the Sonoran desert. Vegetational subdivisions of the Sonoran desert. Ephemeral herbaceous vegetation. Winter ephemerals. Summer ephemerals. Ecological features of characteristic species. Literature. Plates. Index.

Note: A monograph written on the basis of 40 years of study and field investigation of the subject by the late author. The final chapter describes the distribution, habitats, and ecological characteristics of 24 of the commonest plants of the Sonoran desert; 24 full-page distribution maps illustrate this chapter.

[illegible], all of good quality. The second-named author is Associate Professor of Botany at Cornell University and the first-named was formerly Chairman of the Botany Department in the same university.

Robbins Wilfred William and T Elliot Weier

Botany an introduction to plant science. New York John Wiley & Sons, Inc., 1950. 480 p. illus. 25 cm. $6.00. 616

Contents: Introduction. The plant world. Classification and naming of plants. The plant body of seed plants. The plant cell. The stem. The roots. The leaf. The flower. The fruit, seed, and seedlings. Inheritance. The plant as a living mechanism. The groups of plants. The flowering plants. The algae. The fungi. The [illegible]. The bryophytes. The vascular plants. Evolution. Index.

Note: A college textbook which is simpler and more briefly [illegible] than most textbooks written at this level. It is suited to the needs of students whose main interest in the subject is cultural. Its simplicity also suits it to the needs of some lay readers who wish to study the subject without the benefit of an instructor. The authors are members of the faculty of the College of Agriculture of the University of California.

Wilson Carl L.

Botany With line drawings by Hannah T Croasdale. New York. The Dryden Press, 1952 483 p illus. 26 cm. $6.50. 617

Contents. The science of botany. Plants, their nature and use. The plant plan and its modifications. The cell as the basis of plant life. The matter and mechanics of cells. Photosynthesis and the leaf. Respiration and digestion. The structure and growth of stems. Plants and water. The root and the soil. Mineral uptake and plant life. Growth and movement. Vegetative reproduction. The flower and seed production. The fruit, the seed, and seed germination. Plants in their environment. How plants inherit. The mechanisms of evolution. The names and kinds of plants. The algae. The bacteria. Bacteria and man. The fungi. The liverworts and the mosses. The ferns. Early seed plants and their evolution. The club mosses and the horsetails. The gymnosperms. The angiosperms. Glossary. Index.

Note: An introductory textbook written at the college level and designed primarily for students who do not plan to major in botany. A general but fairly comprehensive view of the field is given with the emphasis on basic knowledge and functions rather than classification. The illustrations are of excellent quality and are numerous. The printing is in red and black. The author is Professor of Botany in Dartmouth College.

BOTANY OF VARIOUS REGIONS

Abrams Leroy

Illustrated flora of the Pacific states Washington Oregon and California. In four volumes. Volume III Geraniaceae to Scrophulariaceae, geraniums to figworts. Stanford, Calif Stanford University Press, 1951 866 p. illus 25 cm. $1 .50 618

Contents: [illegible] Geraniaceae [illegible] Scrophulariaceae. Appendix. Index of common and [illegible].

Note: ([illegible] The third volume published of [illegible] monumental reference book designed for the use of professional botanists and others who are interested in the native plants of the Pacific states of the United States of America. It is intended to include descriptions of every species of [illegible] flower, tree, and shrub known to grow wild in these states. The organization is systematic and the plant descriptions are couched in the scientific terminology of botany. However, the author has given not only the scientific names but also English and Indian and Spanish-Californian names. The illustrations are clearly reproduced in black-and-white line drawings.

Billington Cecil

Ferns of Michigan. Bloomfield Hills, Mich. Cranbrook Institute of Science, 1952 240 p. illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. 32) $5.00 619

Contents: Introduction. Pictorial glossary. Systematic check-list. The ferns of Michigan. Hybrids. Michigan's fern flora as compared with that of North America. Glossary. Fern literature. Index.

Note: Essentially [illegible] systematic description of various species of ferns indigenous to the state of Michigan. Particular attention is given to identification and distribution and each description is accompanied by line drawings and distribution maps. The book is written primarily for amateur botanists and gardeners, and includes material on the collection and cultivation of ferns in the home garden. However, the detailed tabulations of species names and distribution are also of value to the professional botanist.

Billington Cecil

Shrubs of Michigan. Second edition. Bloomfield Hills, Mich. Cranbrook Institute of Science, 1949 329 p. illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. 20) $4.50. 620

Contents: Introduction. Ecology. Distribution. Rare or infrequent species. Plant names and their authors. Plant names and their origin. The form and structure of shrubs. Keys to the genera of Michigan shrubs. Shrubs of Michigan. Glossary. Bibliography. Index.

Note: Although intended primarily for amateur use and limited to the shrubs that have been found in the state of Michigan, this work is of more than local interest. Many of the shrubs described are found also in many other states of the United States and in Canada. Drawings of the [illegible], fruit and (sometimes) the flower are included for most of the plants described. The descriptions include the botanical names, the local popular names, information on the growth of flowering and of ripening of the fruit in addition to descriptions in botanical terminology of the plant itself. The first edition was published in 1943. A number of new descriptions have been added in this edition and many descriptions carried over from the previous edition have been revised or augmented.

Clokey Ira Waddell

Flora of the Charleston Mountains, Clark county Nevada. Berkeley and Los Angeles University of California Press, 1951. 274 p. illus. 27 cm. (University of California publications in botany editors, H. L. Mason and others. Vol. 24) $3.75 621

Contents: Introduction. History of botanical exploration. The Charleston Mountains. Vegetational and [illegible] considerations. Vascular plants of the Charleston Mountains: Pteridophyta. Spermatophyta. Index.

Note: A detailed professional study of the flora of an isolated mountain range in the northern part of the Mojave Desert. In the [illegible] and higher elevations the region contains [illegible] flora which has been botanically isolated for many thousands of years. The author made field studies and numerous collections in the years 1935–1947. He was aware of the significance of the ecological aspects but most of the present book is devoted to systematic descriptions of the collected plants. A map of the region studied is included.

Gentry Howard Scott

Land plants collected by the Velero III, Allan Hancock Pacific expeditions 1937–1941. Los Angeles, California The University of Southern California, 1949 245 p. illus. 24 cm. (Allan Hancock Pacific expeditions. Vol 13 number 2) $3.25 622

Contents: General introduction. Channel Islands. Cedros and San Benito islands. Revilla Gigedo islands. Tres Marias islands. Gulf of California region. Islands and Ocean. Costa Rica. Panama. Index.

Note: The Allan Hancock Pacific expeditions 1937–1941 were primarily concerned with marine biology. Nevertheless, some important land plant collections were made and are described in this volume. The book contains both generalized descriptions of the [illegible] of particular islands and other land areas and short descriptions of species. It has both scientific and taxonomic interest.

Howell, John Thomas

Marin flora. Manual of the flowering plants and ferns of Marin county California. P...

tive statement, the common and scientific names, area of distribution, and country of origin.

CHRISTENSEN, CLYDE MARTIN

The molds and man an introduction to the fungi. Minneapolis University of Minnesota Press, 1951 244 p. illus. 22 cm. $4.00. 635

Contents: What fungi do and how they grow. The reproduction and dissemination of fungi. Fungus partnerships with other plants. Fungus partnerships with animals. Fungus parasites of plants. Rusts, smuts, and heart rot. Fungi that destroy commercial products. Fungus parasites of microorganisms and insects. Fungus parasites of fish, land animals, and man. Fungi exploited industrially. Appendix: Summary of the classification of the fungi. Index.

Note. Not a textbook in the usual sense but a general account of the fungi and of their relations to man, written as an introduction to the subject both for college students and for laymen who wish "to learn about the how and why and when and where of fungi." The book is clearly written, scientific terms are used when necessary, and all sorts of arresting, unusual, and little-known aspects of fungi are covered. Brief lists for additional reading are given at the ends of the chapters.

COKER, WILLIAM CHAMBERS, AND ALMA HOLLAND BEERS

The stipitate Hydnums of the eastern United States. Chapel Hill The University of North Carolina Press, 1951 211 p. illus. 26 cm. $5 00. 636

Contents: Introduction. Key to the genera treated. Key to the species of fleshy stipitate Hydnums of the eastern United States. Genus Mycorrhaphium. Genus Steccherinum. Genus Auriscalpium. Genus Hericium. Genus Hydnum. Genus Phellodon. Genus Bankera. Genus Sarcodon. Genus Hydnellum. Genus Pseudohydnum. Literature list. Index.

Note: A systematic description of a family of fungi of which many members grow on rotting wood or on the soil in established forests. It is based on studies made by the senior author over a considerable period of time and represents a reworking of articles by him that were published from 1913 to 1948. The species descriptions are organized along traditional lines with literature references, technical descriptions of morphology, references to illustrations, and information on habitat. The documentation of habitat usually includes a specific statement on site preference such as "Under conifers, often under hemlock mixed with rhododendron." There are 60 plates of which 53 bear reproductions of photographs of specimens, most of which were fresh when photographed.

CORRELL DONOVAN STEWART

Native orchids of North America north of Mexico by Donald Stewart Correll, with illustrations by Blanche Ames Ames and Gordon Winston Dillon cultural notes contributed by Edgar Theodore Wherry and John Vertrees Watkins foreword by Charles Schweinfurth. Waltham, Mass. The Chronica Botanica Company 1950 399 p. illus. 27 cm. (*A new series of plant science books, edited by Frans Verdoorn*. Volume XXVI) $7.50 637

Contents: Introduction. Distribution of our native orchids. General characteristics of orchids. Cultural notes on extra-tropical orchids. Explanation of the text. Use of keys. Orchidaceae: Cypripedium. Orchis. Habenaria. Listera. Epipactis. Cephalanthera. Triphora. Isotria. Pogonia. Cleistes. Vanilla. Arethusa. Calopogon. Prescottia. Cranichis. Ponthieva. Spiranthes. Centrogenium. Goodyera. Erythrodes. Zeuxine. Tropidia. Phyrosthelia [illegible] Malaxis. Liparis. Tipularia. Calypso. Epidendrum. Bulbophyllum. Polystachya. Galeandra. Aplectrum. Hexalectris. Corallorhiza. Bletia. Eulophia. Cyrtopodium. Maxillaria. Ionopsis. Brassia. Oncidium. Macradenia. Campylocentrum. Harrisella. Polyrrhiza. Glossary. Selected bibliography. Index of scientific names. Index of common names.

Note: A systematic treatise in which are assembled for the first time accounts of all recorded North American orchids north of Mexico. Described and discussed are 190 species divided into 46 genera. A key to the genera and keys to the species are furnished. Typical information given for each species includes scientific name or names, etymology of name, common names, botanical description, discussion of distinctive features, range, geographical distribution, preferred locations, and cultural notes. The cultural notes are for the benefit of collectors interested in growing wild orchids in their own gardens. Careful and detailed line drawings are included for most species.

DAWSON ELMER YALE

Marine red algae of Pacific Mexico. Part I, *Bangiales* to *Corallinaceae* Subf *Corallinoideae*. Los Angeles, Calif The University of Southern California Press 1952 239 p illus. 23 cm. (Allan Hancock Pacific expeditions. Vol. 17 no 1) $3 00 638

Note: This is the first part of a systematic study of the marine red algae of the Mexican Pacific. There are keys to genera and species. Most species are illustrated. There are diagnoses and distributional records for the Pacific of Mexico. The volume has 33 plates.

FASSETT, NORMAN CARTER

Grasses of Wisconsin the taxonomy, ecology and distribution of the Gramineae growing in the state without cultivation. With an essay "The vegetation of Wisconsin" by John T Curtis. Madison Wis. The University of Wisconsin Press, 1951 173 p. illus. 22 cm. $3.00 639

Contents: Introduction. Limitations of range maps. To identify grass. Structure of grasses. Key to subfamilies and tribes. Characteristics and distribution of the Gramineae of Wisconsin: Festuceae. Hordeae. Aveneae. Agrostideae. Chlorideae. Phalarideae. Oryzeae. Paniceae. Andropogoneae. Tripsaceae. The geological setting. The vegetation of Wisconsin, by John T. Curtis. Figures. Glossary. Index.

Note: The grasses covered in this study include some that are natives of Wisconsin and others that have been introduced either intentionally or unintentionally into the state. The different grasses are listed and described in systematic order. Small county maps of the state, six to a page, show distribution of 176 species of grass. Following the text is a section of 39 pages containing 154 line-drawing figures, many of them in magnified size, to assist in identification.

FISCHER GEORGE WILLIAM

The smut fungi a guide to the literature, with bibliography New York The Ronald Press Company, 1951 387 p 24 cm. $8.50 640

Contents (abridged): Part I, Subject matter guide to the literature. Part II, Bibliography. Index.

Note. In this book the first part is arranged by genera and species and under each species references are given to published literature bearing on the following aspects: control, culture on artificial media, cytology, heterothallism and sex, hybridization and genetics, life history, parasitism, longevity of spores, miscellaneous records, spore germination, and varietal resistance and susceptibility. Of course, headings are omitted in instances where the author found no pertinent literature. Furthermore, species were omitted if no literature bearing on their biology was found. The number of entries under individual species vary from one to one hundred and more. The second part of the book is a bibliography of 1353 citations of the international literature. This part is arranged alphabetically by author but is keyed by numbers to the first part. The whole constitutes a very useful literature index and guide for plant pathologists and other scientists interested in the biology of the smut fungi.

FOSTER, JACKSON WALTER

Chemical activities of fungi. New York Academic Press, Inc., 1949 648 p. illus. 24 cm. $9.50. 641

Contents: Introduction, history perspective. The methodology of mold metabolism. Chemical nature of the mold mycelium. General considerations of mold metabolism. Natural variations. Mutations, physiological genetics, and biochemical syntheses. Trace element nutrition of fungi. Lactic acid formation by fungi. Alcoholic fermenta-

tion by molds. Oxalic acid metabolism. Fumaric and other C_4-dicarboxylic acids. Citric acid. Itaconic acid. Kojic acid. Gluconic and other sugar acids. Carbohydrates produced by fungi. Nitrogen metabolism of fungi. Other transformations by fungi. Microbiological aspects of penicillin. Author index. Subject index.

Note. The title of this book is well chosen. It deals not only with the biochemical processes of molds as these proceed under natural *conditions but also with the manipulation and regulation* of these processes in such ways that optimum amounts of desired chemical substances are produced under laboratory or factory conditions. Essentially the book is critical review of published literature. A considerable degree of chemical maturity is assumed. The chapters are supplemented by long lists of pertinent literature. The author is Professor of Bacteriology in the University of Texas and has himself made notable contributions to the knowledge of the field.

GOTTSCHO, SAMUEL H.

Wildflowers how to know and enjoy them. Pictures and text by Samuel H. Gottscho New York Dodd Mead & Company, 1951 192 p illus. (part col d) 17 cm. $2 75 642

Contents: Introducing the book. The pursuit of hobby The enjoyment of wildflowers. With the seasons. Wildflower lists. Of things botanical. Flower names and families. *Flower colors. Blue flower section. Yellow flower section. White flower section. Pink flower section.* The travels of seeds. Wildflower conservation. Wildflowers in the home. Books. Coloring guide. Photography Index.

Note: Illustrated by photographs, 122 in black and white, 98 in color, this pocket-sized volume is an excellent guide to the commoner wildflowers of the United States of America east of the Mississippi River and north of the Carolinas. The book is organized so that flowers of the same color are described and pictured in the same section in the approximate order of their month of bloom. The descriptions, ranging from 5 to 15 lines each, include common name, scientific name, family name, locality where commonly found, size of flowers and plants, range, and season of bloom, together with special details if any. *Symbols* indicate rare wildflowers, the picking of which is restricted. The photographic illustrations, most of them one-fourth page in size, are successfully reproduced from pictures taken by the author.

GRAVES, ARTHUR HARMOUNT

Illustrated guide to trees and shrubs, this *is a guide to the woody plants of the* north eastern United States—native, naturalized and commonly cultivated exotic kinds including both summer and winter characters. 45 plates and 116 text figures. Wallingford, Conn. Published by the author 1952 240 p. illus. 24 cm $4 00 643

Contents: Preface. List of plates. Introduction. How to use the keys. General key Distinguishing characters of species. Short cuts to naming. Some helpful references. Glossary Index.

Note A reference book for amateur naturalists and amateur and professional gardeners, designed to aid such readers in the identification of trees and shrubs. The descriptions of specific plants are preceded by keys for determining family and genus. The species descriptions are brief and are limited to only the most important features, common and scientific names, habitat, and distribution. Many of the illustrations are reproductions of well-executed line drawings of leaves, terminal buds, and fruits

GUNDERSEN ALFRED AND OTHERS

Families of dicotyledons. By Alfred Gundersen, with introductory chapters by C. A. Arnold and others Drawings by Maud H. Purdy Waltham, Mass. The Chronica Botanica Company 1950 237 p. illus. 23 cm. (A new series of plant science books edited by Frans Verdoorn. Volume xxv) $4 75 644

Contents: Part 1 Introduction Fossil dicotyledons, by C. A. Arnold. Wood anatomy by O Tippo Carpels and ovules, by T Just. Embryology by H. F Copeland. Cytotaxonomy by J. H. Taylor. Plant geography, by W H. Camp. Part 2, Characters of dicotyledons: Stem. Leaf Inflorescence. Flowers and insects. Floral anatomy Perianth. Stamens and nectaries. Pollen. Placentation. Ovule and seed. Part 3, Historical notes: Seventeenth century Eighteenth century Nineteenth century Systems since 1900. Orders compared. Part 4, Systematic arrangement Beginning of the system. Sequence of groups. Nomenclature. Scope of orders and families. Magnoliiflorae Magnoliales. Ranales. Piperales. Chlaenaceae Cactales. Cistales. Salicales. Papaverales Sarraceniales. Aristolochiales. Tamaricales. Thea group Theales. Ebenales. Ericales. Rosiflorae: Rosales. Hamamelidales. Thymelaeales. Myrtales. Ulmus group Proteales. Santalales. Urticales. Balanopsidales. Fagales. Leitneriales. Casuarinales. Malva group Malvales. Euphorbiales. Geranium group Rutales. Juglandales. Sapindales. Celastrales. Geraniales. Dianthiflorae: Caryophyllales. Polygonales. Primulales. Plantaginales. Jasminiflorae: Loganiales. Polemoniales Boraginales. Campanales. Rubiflorae: Umbellales. Rubiales. Asterales. Incertae sedis. Concluding remarks. Literature cited. Index of plant names

Note: A systematic reclassification of the dicotyledons written on the basis of more than 20 years study of the group. 140 families are grouped into 43 orders as an arrangement which the author recognizes as tentative and subject to future improvement. Comparisons with other classifications are touched upon, yet in large part the systems of Engler and Bentham and Hooker have been followed. The accounts of the separate families, each including brief descriptions and citations from recent literature, occupy more than half the volume. The illustrative drawings, mostly prepared from living plants, show the details of seeds, buds, and flowers of typical species in the various orders.

HITCHCOCK ALBERT SPEAR

Manual of the grasses of the United States. Second edition. Revised by Agnes Chase. Washington D C Government Printing Office, 1950 1051 p illus. 24 cm. (United States. Department of Agriculture. Miscellaneous publication no. 200) $3.00 645

Contents: Introduction: Uses of grasses. Distribution of grasses. Morphology of grasses. Classification of grasses. Nomenclature. Common names. Scope of the manual. Gramineae (Poaceae) the grass family Descriptions of the subfamilies and keys to the tribes: Festucoideae. Panicoideae. Descriptions of the tribes and keys to the genera: Bambuseae Festuceae. Hordeae. Aveneae. Agrostideae. Zoysieae. Chlorideae. Phalarideae. Oryzeae. Zizanieae. Melinideae. Paniceae. Andropogoneae. Tripsaceae. Descriptions of genera and species: Bambuseae. Festuceae. Hordeae. Aveneae. Agrostideae. Zoysieae. Chlorideae. Phalarideae. Oryzeae. Zizanieae. Melinideae. *Paniceae. Andropogoneae. Tripsaceae. Synonymy* Unidentified names. Persons for whom grasses have been named. Glossary Appendix. Place of publication and type species of new genera described. Addenda. Index.

Note: A comprehensive, systematic catalogue based mainly on the very extensive collection in the United States National Herbarium. Botanical descriptions of the grasses are supplemented in most instances by drawings of good quality. In contrast to the 159 genera and 1100 species described in the first edition (1935) 169 genera and 1398 species are described. There are now 1200 illustrations.

HITCHCOCK C LEO

A revision of the North American species of Lathyrus. Seattle University of Washington Press 1952 104 p. illus. 25 cm. (University of Washington. Publications in biology Vol. 15) $2.50 646

Contents: Introduction. Description of species. Index to collections seen. Representative collections examined. Index to personal names. Illustrations.

Note. A new systematic description based on extensive field and herbarium studies and incorporating recently developed data on chromosome number and on crossing among species. The information on interbreeding has been derived largely from cultural experiments conducted by the author. The author's studies and observations have led him to believe that "many of the species interbreed rather freely producing hybrid populations of great variability This characteristic is taken into account in the species descriptions.

LEONARD EMERY C

The Acanthaceae of Colombia, I. Washington D C. Government Printing Office 1951 117 p. illus. 24 cm. (Smithsonian Institution.

United States National Museum. Contributions from the United States National Herbarium. Vol. 31 part 1) Paper $0.50 647

Contents: Introduction. Systematic treatment: Subfamily Nelsonioideae. Subfamily Mendoncioideae. Subfamily Thunbergioideae. Subfamily Acanthoideae: Series Contortae. Tribe Trichantherae. Tribe Hygrophileae. Tribe Petalideae. Tribe Ruellieae. Tribe Barlerieae. Index.

Note: This is the first part of a work to be completed in three parts describing and discussing in systematic fashion the known Colombian species of the family Acanthaceae. It is a reference work for botanists, so that they may identify their collections of acanthaceous plants or use the keys for detecting further undescribed species.

LILLY, VIRGIL GREENE AND HORACE L BARNETT

Physiology of the fungi. New York. McGraw Hill Book Company, Inc. 1951 464 p. illus 23 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $7.50. 648

Contents: Introduction. Culture media. Growth. Enzymes and enzyme action. Essential metallic elements. The essential nonmetallic elements other than carbon. Carbon sources and carbon utilization. Hydrogen ion concentration. Vitamins and growth factors. Fungi as test organisms. Metabolic antagonists. The action of fungicides. Metabolic products. Factors influencing sporulation of fungi. Spore discharge and dissemination. Spore germination. The physiology of parasitism and resistance. Physiological variation and inheritance of physiological characters. Suggested laboratory exercises. Index.

Note: An advanced textbook for the student already acquainted with the structure of fungi. It comprises a systematic discussion of the life processes of fungi. Summaries and bibliographical references are given at the ends of the chapters, and a series of 13 suggested laboratory exercises is outlined in 20 pages at the end of the book. The work had its origin in the lectures and laboratory exercises used by the authors in a course offered to graduate students at the University of West Virginia. Aside from a basic knowledge of fungus morphology the student is also supposed to have a knowledge of organic chemistry. The book is of some value as a reference work to persons actively engaged in physiological research on fungi.

MCVAUGH, ROGERS AND JOSEPH H. PYRON

Ferns of Georgia. Sponsored by the Garden Club of Georgia, Inc. Athens The University of Georgia Press 1951 195 p. illus. 24 cm. $5.00 649

Contents: Introduction. Life history of ferns. Classification of ferns. How plants get their names. Arrangement of genera and species. How to use the manual. Key to the genera of ferns and fern allies. Keys to the species. Descriptions and illustrations. Explanation of special terms. Index.

Note: A semi-technical manual suitable for use by amateur botanists in the study and identification of ferns and by professional botanists interested in the geographical distribution of fern species in southern United States of America. It is based on a three-year field study and on the examination of herbarium collections. Each fern is described in a one-page essay which covers the Latin name and the common name (when one exists) description, habitat, range, and general remarks. Opposite the essay there is in each instance a drawing of fronds or of the whole plant together, with a map showing the portions of Georgia in which the fern may be found.

MOLDENKE, HAROLD NORMAN

American wild flowers. New York D Van Nostrand Company Inc. 1949 453 p illus. (part col d) 22 cm. (The new illustrated naturalist. Editorial advisory board William Beebe and others) $6 95 650

Note: This work on wild flowers by the Curator and Administrator of the Herbarium of the New York Botanical Garden is not essentially a guidebook to the wild flowers, although it may have use as such. It is, rather, a running account, popularly written and abundantly illustrated with photographs in color and in gravure, of the showiest and most interesting plants of the entire United States and Canada—"those most likely to attract the attention of the traveler." A poll of naturalists resident in every state and province assisted the author in determining which species to include, and in all 2050 species, varieties, and named forms are treated. The species are discussed within their respective families, which are divided into 50 natural groups, with some account given of their relationships. Within each family group the various species of a single genus are described in adjoining paragraphs. The general geographical range is indicated for the majority of species, as well as a statement of the type of habitat in which it may be found. Descriptions are of necessity limited to a few words by which the species may be distinguished. A glossary and selected bibliography are included.

MUENSCHER, WALTER CONRAD

Poisonous plants of the United States. New York The Macmillan Company 1949 266 p. illus. 21 cm. (The rural science series, edited by L. H. Bailey) $4.00 651

Contents: Part I, Nature and classification of poisonous plants: The classification of poisonous plants. Plants poisonous or injurious under special conditions. Part II, Poisonous plants arranged according to family. Literature references. Index.

Note: A brief but useful manual of up-to-date information. Although the main part is arranged by botanical family it is addressed to amateur botanists, farmers, and anyone else interested in scientific or practical information on the subject. The plant descriptions include not only information needed for identification, but also information on geographic distribution, poisonous principles, symptoms, and in some cases simple remedies. As an aid for identification there are numerous line drawings.

PEATTIE, DONALD CULROSS

A natural history of trees of eastern and central North America. Illustrated by Paul Landacre. Boston, Mass. Houghton Mifflin Company 1950 606 p. illus. 23 cm. $5.00 652

Contents: Notes on nomenclature and distribution. The trees: The pines (*Pinus*) The larches (*Larix*) The hemlocks (*Tsuga*) The spruces (*Picea*) The firs (*Abies*) The arbor vitae (*Thuja*). The false cypresses (*Chamaecyparis*) The junipers (*Juniperus*) The poplars (*Populus*) The willows (*Salix*) The walnuts (*Juglans*). The hickories (*Carya*) The hornbeams (*Carpinus*) The hop hornbeams (*Ostrya*). The birches (*Betula*) The beeches (*Fagus*). The chestnuts (*Castanea*) The oaks (*Quercus*). The elms (*Ulmus*) The hackberries (*Celtis*) The mulberries (*Morus*) The tuliptrees (*Liriodendron*) The magnolias (*Magnolia*) The pawpaws (*Asimina*). The sassafrasses (*Sassafras*) The witch hazels (*Hamamelis*) The sweet gums (*Liquidambar*) The sycamores (*Platanus*) The apples (*Malus*) The serviceberries (*Sorbus*) The shadblows (*Amelanchier*) The hawthorns (*Crataegus*) The plums and cherries (*Prunus*) The redbuds (*Cercis*) The coffeetrees (*Gymnocladus*) The sweet locusts (*Gleditsia*) The yellowwoods (*Cladrastis*) The locusts (*Robinia*) The prickly ashes (*Zanthoxylum*) The hoptrees (*Ptelea*) The sumacs (*Rhus*) The hollies (*Ilex*) The maples (*Acer*) The horse chestnuts (*Aesculus*) The lindens (*Tilia*) The Hercules'-clubs (*Aralia*) The tupelos (*Nyssa*) The cornels (*Cornus*) The viburnums (*Viburnum*) The rhododendrons (*Rhododendron*) The mountain laurels (*Kalmia*) The sourwoods (*Oxydendrum*) The ebonies (*Diospyros*) The silverbells (*Halesia*). The sweetleaves (*Symplocos*) The fringetrees (*Chionanthus*) The ashes (*Fraxinus*) Keys to species and genera. Glossary Index of scientific names. Index of English names.

Note: The first of a projected series of four volumes on the trees of America north of Mexico. Included are 187 species divided into 41 genera. For each species are given: common name, scientific name, other names, range, description of leaves, flowers, fruit, seeds, bark, wood, and a brief essay telling something of the use and the lore of the species and of its place in American history especially in pioneer times. To assist in identification illustrations are given in black and white of the mature leaves and flower or fruit of each species, together with 19 full-page drawings showing the general aspect of 19 of the genera. A book for reading and reference rather than a field book. Subsequent volumes are to describe the western and southern sylvae and the cultivated trees of exotic origins.

PRESCOTT GERALD WEBBER

Algae of the western Great Lakes area, exclusive of desmids and diatoms. Bloomfield

Hills, Mich. Cranbrook Institute of Science, 1951 946 p illus. 24 cm. $10.50 653

Contents (abridged) Geographical features and algal distribution. Relationships of phytoplankton to lake productivity Morphological characters illustrated. Systematic account: Division Chlorophyta. Division Chrysophyta. Division Euglenophyta. Division Chloromonadophyta. Division Pyrrhophyta. Division Cyanophyta. Division Rhodophyta. Analytical key to the genera. Glossary Bibliography Plates. Index.

Note. A systematic description of algae collected from lakes and marshes of Wisconsin and Michigan, a region noted for its abundance of algal flora. The work is comprehensive, in that it describes all of the species reported in the publications of earlier workers as well as species collected by the author. It is a substantial contribution to the literature of both phycology and limnology

RAPER, KENNETH BRYAN, AND CHARLES THOM

A manual of the Penicillia. With the technical assistance and illustrations by Dorothy I. Fennel. Baltimore The Williams & Wilkins Company 1949 875 p illus (part col'd) 24 cm. $12.00 654

Contents: Part I, General discussion Historical. Generic diagnosis and synonymy Observation and description of Penicillia. Cultivation and preservation of Penicillia. Penicillium. Part II, The manual proper: Use of the manual. Monoverticillata. Asymmetrica—divaricata—velutina—lanata—funiculosa—fasciculata. Biverticillata-symmetrica. Polyverticillata. Gliocladium, Paecilomyces, and Scopulariopsis. Part III, Reference material Topical bibliography General bibliography Species index. Accepted species and varieties. Index.

Note. A new systematic study in which is incorporated the useful material from many unpublished surveys and groupings made in industrial laboratories and elsewhere as a result of the interest in this genus occasioned by the discovery of the antibiotic penicillin. It supersedes Thom's *The Penicillia* published in 1930 but in contrast is designed for quick reference. The systematic descriptions which account for approximately 600 of the book's pages are arranged in the traditional manner but they consist largely of information that is useful in identification and laboratory culture. According to the authors, about 4,000 strains were examined in the course of the book's preparation. Strains upon which particular descriptions are based are identified There are 172 figures most of which consist of several illustrations. There are ten color plates. The topical bibliography consists of literature references arranged according to field of interest or application, for example, cheese. The general bibliography is arranged by author and includes both the systematic literature and that bearing on pharmacological and industrial applications.

REHDER, ALFRED

Bibliography of cultivated trees and shrubs hardy in the cooler temperate regions of the northern hemisphere. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1949 825 p 30 cm. $20.00 655

Contents Introduction Explanation of abbreviations of serials and titles. Systematic enumeration of cultivated trees and shrubs. Additions and emendations. Index.

Note (1441) A monumental reference work of value to botanists and horticulturists. It provides literature references to the sources of the botanical names, valid names and synonyms, of the cultivated trees and shrubs of the north temperate zone. It is a complement to the author's *Manual of cultivated trees and shrubs hardy in North America exclusive of the subtropical and warmer regions*, second edition, New York, 1940. All tree and shrub names in the *Manual* are to be found also in the *Bibliography* with full synonymy and with additional genera, species, and varieties introduced or described to the end of 1947 The index provides an alphabetical reference to the plants included. In both the systematic enumeration and the index the names are in Latin, following the international rules of botanical nomenclature. The work is not a bibliography of books and periodicals on trees and shrubs; but is rather a bibliography of original sources for the names of each tree and shrub.

SEAVER, FRED JAY

The North American cup-fungi (Inoperculates) Illustrated. New York Published by the author, 1951 428 p. illus. (part col'd) 24 cm. $7.50 656

Contents: Introductory Taxonomic treatment. Explanation of plates. Host index. Index to illustrations. Index to recognized genera. Index to genera and species.

Note. (1317) This work complements the author's *The North American cup-fungi (Operculates)* supplemented edition, New York, 1942. It is a systematic description addressed to professional botanists but the author disavows finality in these words: "There are many controversial questions and the writer makes no pretense that this is the last word in the treatment of species, genera or families but merely a summary of the available facts as they appear at the present time. Nevertheless, the work is a major contribution to the description of this plant group. There are 150 plates of good quality

SHAN, REN HWA, AND LINCOLN CONSTANCE

The genus Sanicula (Umbelliferae) in the Old World and the New Berkeley Calif University of California Press, 1951 78 p. illus. 26 cm. (University of California publications in botany Vol. 25 no 1 Editors H. L. Mason and others) Paper $1 00 657

Contents (abridged) Introduction. Taxonomic history Taxonomic criteria. Natural divisions of the genus. Geographical distribution. Taxonomic treatment: Key to the sections and species Populations of putatively hybrid origin. Species and names excluded from the genus Sanicula. Literature cited.

Note. The nucleus of this study was a doctoral dissertation by Dr. Ren Hwa Shan entitled, "The Old World species of Sanicula (Umbelliferae) After Dr. Shan had returned to Shanghai in April, 1949 Lincoln Constance who had worked closely with him expanded the paper to include American species of the genus and made other extensive emendations. The resulting monograph arranges the species in natural groups on the basis of morphological similarity and geographical community Ideographs show the shapes of the 37 recognized species. Botanical drawings in addition show habit, umbellet, and fruit of 8 of these species. Sketch maps show geographic distribution of the 37 species. For each of the species are given bibliographical references, description, type locality distribution, general comment as to relationships and habits, and list of representative specimens.

SMITH ALEXANDER HANCHETT

Puffballs and their allies in Michigan. Ann Arbor University of Michigan Press, 1951 131 p illus. 24 cm. $3.00 658

Contents The fructification. Edibility Key to orders of Gasteromycetes. Hymenogastrales, Gautieriales. Tremellogastrales. Hysterangiales. Phallales. Lycoperdales. Sclerodermatales. Nidulariales. Podaxales. Literature cited. Index.

Note A systematic description of an interesting group of fungi. Although limited to those species that are found naturally within the state of Michigan, the book is of wider interest because the species described are found in many other parts of the world as well. The author states that the book is intended for general use. However, the morphological descriptions are cast in technical terms and he has included no glossary The verbal descriptions are supplemented by a series of plates made from photographs of collected specimens.

SMITH GILBERT MORGAN

The fresh-water algae of the United States. Second edition New York McGraw Hill Book Company, Inc., 1950 719 p. illus. 24 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $10 00 659

Contents Nature, evolution, and classification of the algae. The distribution and occurrence of fresh-water algae Collection, preservation, and methods of studying the fresh-water algae. Chlorophyta. Euglenophyta. Chrysophyta. Phaeophyta. Pyrrophyta. Cyanophyta. Rhodophyta Groups of uncertain systematic position. Key to the fresh-water algae of the United States. Bibliography Index.

Note (1500) A standard comprehensive description, useful both to specialists and to advanced students. The three preliminary chapters occupy only 38 pages. The greater part of the remainder

is devoted to the systematic descriptions. Groups are described down to species of genera. Instead of descriptions of species, literature references are given to descriptions published elsewhere. There are 539 figures most of which contain more than one drawing.

SMITH, GILBERT MORGAN, AND OTHERS

Manual of phycology an introduction to the algae and their biology Edited by Gilbert M. Smith With 48 plates and figures in the text. Waltham, Mass. The Chronica Botanica Company 1951 375 p illus. 26 cm. (A new series of plant science books edited by Frans Verdoorn. Volume XXVII) $7.50 660

Contents: History of phycology by G. W Prescott. The classification of algae, by G. M. Smith. Chlorophyta, by M. O. P. Iyengar Euglenophyta, by T. L. Jahn. Chrysophyta, by F. E. Fritsch. Pyrrophyta, by H. W Graham. Phaeophyta, by G. F Papenfuss. Cyanophyta, by Francis Drouet. Rhodophyta, by K. M. Drew Fossil algae, by J. H. Johnson. Cytology of algae, by H. C. Bold. Sexuality of algae, by G. M. Smith. The pigments of algae by H. H. Strain. Physiology and biochemistry of algae, by L. R. Blinks. Ecology of fresh water algae, by L. H. Tiffany Ecology of marine algae, by Jean Feldmann. Plankton algae and their biological significance, by B. H. Ketchum. Appendices: Methods for the cultivation of algae Microtechnique. Index.

Note: A volume of separate, signed chapters, each complete from brief introduction to bibliography covering all aspects of algology except economic phycology to cover which subject another volume is projected in the same series. Each author covering major group of algae discusses structure, reproduction, and classification of his group, whereas separate chapters are devoted to ecological, physiological, and other general problems. The work is companion volume to F Verdoorn, editor, *Manual of bryology* The Hague, 1932, and to F Verdoorn, editor *Manual of pteridology* The Hague, 1938.

THARP BENJAMIN CARROLL

Texas range grasses. With drawings by Clare Y Whaley Austin Tex. University of Texas Press 1952 125 p illus. 26 cm. $4 00 661

Contents: Introduction. The longleaf pine region. The coastal prairie region. The Rio Grande plain region. The mesquite-chaparral region. The coastal subhumid dunes region. The oak-hickory-mesquite region of the Llano uplift. The oak-juniper region of the Edwards plateau and the Lampasas Cut plain. The mesquite forest and oak savanna region. The live oak-mesquite savanna region. The foot-hill-Mesa-Valley region of trans-Pecos Texas. The sandy south plains region. The high plains region. The mesquite savanna region. The western cross timbers region. The eastern cross timbers region. The oak-hickory forest region. The pine-oak forest region. The blackland prairie region. Summary notes on Texas range grasses and their relatives beyond Texas borders. Appendices: The chemical composition of grasses from three Texas regions. Texas range and forage grasses, comprehensive analytic key; distribution and relative abundance of the more important species. Bibliography.

Note: A survey of the distribution and relative abundance of the 160 species of grasses which are important as grazing plants in Texas. Following the geographic introductory sections, the 18 vegetational regions of the state are described and the distribution of their grasses analyzed. The work is written in non-technical fashion, and 23 species are illustrated in full-page drawings for purposes of identification. The publication was prepared as basis for further research and study in the program of Texas grassland improvement launched by the Grass Research Project of the Plant Research Institute.

TIFFANY LEWIS HANFORD, AND MAX EDWIN BRITTON

The algae of Illinois. Chicago The University of Chicago Press 1952 107 p illus. 25 cm. (The University of Chicago. Committee on Publications in Biology and Medicine, by Emmet B Bay and others) $10.00 662

Contents (abridged) Introduction. Brief synopsis of the algal classes. Phylum Chlorophyta. Phylum Chrysophyta. Phylum Pyrrophyta. Phylum Euglenophyta. Phylum Myxophyta. Phylum Rhodophyta. Doubtful species. Glossary Bibliography Index.

Note: Descriptions, keys, and illustrations of the algae of Illinois, state noted for its diverse algal flora, are supplied in this work, which supplements M. E. Britton, *A catalog of Illinois algae*, Evanston, Illinois, 1944. Species descriptions are written in botanical terminology and are very detailed. The 108 plates contain 1186 reproductions of original drawings.

TRELEASE, WILLIAM, AND TRUMAN G YUNCKER

The Piperaceae of northern South America. Urbana University of Illinois Press 1950 838 p. illus. 24 cm. $10.00 663

Contents: Volume Introduction Key to the genera. Genus Piper —Ottonia—Sarcorhachis—Trianaeopiper. Plates. Volume Genus Pothomorphe—Peperomia. Bibliography Index of collections cited. Index of names. Plates.

Note A systematic description of one of the large dicotyledonous plant families. Although limited to species known to occur in the Guianas, Venezuela, Colombia, and Ecuador only it contains descriptions of many species not reported hitherto. The work was based on comprehensive examination of specimens in the larger herbaria of the world. A symbol that indicates the location in herbarium of the specimen examined is included in the species description. The work includes 674 plates, all of which are reproductions of photographs of specimens.

WAKSMAN SELMAN ABRAHAM

The actinomycetes their nature occurrence activities, and importance. Waltham Mass. The Chronica Botanica Company 1950 230 p illus. 24 cm. (Annales cryptogamici et phytopathologici incorporating Annales bryologici edited by Frans Verdoorn. Vol. 9) $5.50 664

Contents. Introductory Terminology phylogeny and taxonomy Identification and descriptions of important types. Morphology and life cycle. Variations and mutations. Metabolism of actinomycetes—growth and nutrition production of odors and pigments. Production of enzymes and of growth-promoting substances Antagonistic properties of actinomycetes and production of antibiotics. Distribution of actinomycetes in nature. Decomposition of plant and animal residues. Actinomycetes as causative agents of plant diseases. Actinomycetes as causative agents of human and animal diseases. Summary Appendix Media used for the study of actinomycetes. Bibliography General index. Index of organisms.

Note A complete summary of present knowledge of an interesting and important group of microorganisms. The author who is internationally famous for his work with soil organisms, writes on the basis of more than one-third of century experience with the actinomycetes. In preparing the present work, he drew both upon the work of other investigators and upon work done in his own laboratories. References to the bibliographical sources occur on nearly every page. The book will have interest and reference value to all persons who are professionally concerned with the actinomycetes. It will also be of use to persons desiring an introduction to the subject.

WICKERHAM LYNFERD JOSEPH

Taxonomy of yeasts. Washington, D C. Government Printing Office, 1951 56 p illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1029) Paper $0 40 665

Contents: Introduction. Part 1 Techniques of classification. Isolation and maintenance. Morphology: Sporulation. Cellular morphology Physiology: Carbon assimilation tests. Nitrate assimilation tests. Vitamin deficiency test. Fermentation tests. Growth. Ability to liquefy gelatin. Ability to grow at 37° C. Production of starch. Production of esters. Variation. Part 2 A classification of the genus *Hansenula* History of the genus. Keys to the species Descriptions of the species. Discussion. Phylogenetic relationships. Summary Literature cited. Plates 1–4.

Note: A method of classification leading to the defining of each genus of ascosporogenous yeasts so that it will contain only single group of related species is presented in this pamphlet. A similar definition, covering the same range of characteristics except the ability to form ascospores, is used to define the corresponding nonsporogenous genus if such genus exists. Through accumulating changes

in the current classifications, this procedure clarifies relationships between certain sporogenous genera and their previously unestablished genetic counterparts among the asporogenous yeasts.

PLANT CHEMISTRY AND PHYSIOLOGY

ANNUAL REVIEW OF PLANT PHYSIOLOGY Volume 3 Daniel I. Arnon, editor Leonard Machlis, associate editor Stanford Calif Annual Reviews Inc., 1952 369 p 23 cm. $6 00 666

Contents: Factors affecting availability of inorganic nutrients in soils with special reference to micro-nutrient metals, by G. W Leeper. Glycolytic enzymes in higher plants, by P K. Stumpf. Metabolism of phosphorylated compounds in plants, by H. Albaum. Studies of the physiology pharmacology, and biochemistry of the auxins, by J. Bonner and R. S. Bandurski. Agricultural application of growth regulators and their physiological basis, by J van Overbeek. Transport of organic compounds, by W H. Arisz. Leaf proteins, by S. Wildman and A. Jagendorf. Physiological aspects of low temperature preservation of plant products, by M. A. Joslyn and H. C. Diehl. Physiology of virus diseases, by F C. Bawden and N. W Pirie. Mechanisms of ion absorption by roots, by R. Overstreet and L. Jacobson. Physiological bases for assessing the nutritional requirements of plants, by A. Ulrich. Photosynthesis, by E. Rabinowitch. Physiology of flowering, by A. Lang. Carboxylating enzymes in plants, by B Vennesland and R. E. Conn. Tree physiology by B. Huber. Indexes.

Note. This is the third volume in a useful series in which attention is paid both to scientific advances and to developments in applications of the scientific knowledge. The sections or chapters are essentially literature surveys as is customary in this type of publication. They are written concisely but are not unpleasantly terse. Statements in the narrative text are keyed to the extensive bibliographies. The names of authors of all the cited publications are included in the author index, and a detailed subject index covers the contents of the entire volume.

BARTHOLOMEW ELBERT THOMAS, AND WALTON B SINCLAIR

The lemon fruit its composition, physiology, and products. Berkeley and Los Angeles University of California Press 1951 163 p. illus 24 cm. $4 50 667

Contents (abridged) General information. Composition and physiology Products and their uses. Literature cited. Author index. Subject index

Note Essentially this work is a compact summary of information which has been gathered from the technical literature. Botanical and biochemical aspects are covered in the first two parts. The third part, which is only 8 pages long, contains information on the commercial importance and uses of the whole fruit and its components. Horticultural aspects are not covered. The book is useful as a reference volume and a guide to the technical literature. There is a 13-page bibliography

BONNER JAMES

Plant biochemistry New York Academic Press Inc., 1950 537 p illus. 23 cm. $7.50. 668

Contents (abridged) Part I, Carbohydrates and carbohydrate metabolism: Transformation of the sugars. Starch. Inulin and the water-soluble polysaccharides. Part II, The cell wall and cell wall metabolism: Cellulose. Noncellulosic polysaccharides. The pectic substances. The gums, mucilages, and gel-forming substances. Lignin. Part III, Plant acids and plant respiration The organic acids of plants. Plant respiration. Part IV Metabolism of nitrogenous compounds: Synthesis and metabolism of amino acids. The plant proteins. The plant proteolytic enzymes. Nitrogen metabolism of seedlings. Nitrogen metabolism of leaves Purines and pyrimidines. Alkaloids. Nitrification and nitrogen fixation Part Secondary plant products: Lipids and lipid metabolism. Essential oils. The carotenoids. Rubber. The anthocyanins and anthoxanthins. Part VI, Certain aspects of plant growth: The plant growth substances. Photosynthesis. Author index. Subject index.

Note: An inclusive introductory text. Since it is intended for study by upperclass and graduate students in organic chemistry knowledge of fundamental organic chemistry has been assumed. Most of the chapters are short and are intended only to introduce the reader to the topic under discussion. On the other hand, a reference list of source material is appended to each chapter. Because of this feature readers outside of colleges who have the necessary education in chemistry can use the book as a guide to the recent literature of specific topics.

BONNER, JAMES AND ARTHUR W GALSTON

Principles of plant physiology Illustrations by Evan L. Gillespie. San Francisco W H. Freeman and Company 1952 499 p. illus. 24 cm. (A series of biology texts George W Beadle, Ralph Emerson, Douglas M Whitaker editors) $5 50 669

Contents: Plants and plant physiology Part I, Nutrition Photosynthesis. Mineral nutrition. Permeability and the absorption of nutrients. Water economy The soil as a medium for plant growth. Translocation—the redistribution of nutrients. Part II, Metabolism: Enzymes—the machinery of metabolism. Carbohydrates—their nature, functions, and interrelations. Respiration and the mechanism of biological oxidations. Nitrogen—its metabolism and economy in plant and nature. Lipids—their role in structure and function. Highways and byways in plant metabolism. Part III, Growth and development. The dynamics of growth and development. The integration of growth. Auxin and the control of growth. The physiology of reproduction. Dormancy and arrested development. The problem of differentiation. Plant and environment. Index.

Note. A well-written introduction. The authors' style is simple and easy to read, and they have included numerous descriptions of experiments and results from experimental investigations that will increase the reader's interest. The illustrations have been well thought out and are clearly reproduced. The authors have assumed that students using the book will have had introductory courses in general chemistry and botany

CRAFTS, ALDEN SPRINGER, AND OTHERS

Water in the physiology of plants, by A. S. Crafts, H. B Currier and C R. Stocking. Waltham, Mass. The Chronica Botanica Company 1949 240 p. illus. 26 cm. (A new series of plant science books, edited by Frans Verdoorn Volume XXI) $6 00 670

Contents: Introduction. Structure of water. Properties of solutions. Osmosis and osmotic pressure. The mechanism of osmosis. Water as a plant component Intracellular distribution of water. The osmotic quantities of plant cells. Active cell water relations. Uptake and movement of water in plants. Water loss and water retention. Bibliography Author index. Subject index.

Note. A reference book on plant and water relations intended for the use of botanists and plant physiologists. The chapters are essentially reviews of the published literature of the subject, from early times to the present. Full bibliographical details are given in the 18-page bibliography As the authors have made the material into a connected discourse, with summaries at the ends of the chapters, the work may also be used as a textbook for advanced courses. The most recent developments in the field are outlined in a 3-page supplement to the preface.

CURTIS, OTIS FREEMAN AND DANIEL G CLARK

An introduction to plant physiology New York McGraw Hill Book Company Inc., 1950 752 p illus. 23 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $7.50. 671

Contents (abridged) Foods and photosynthesis. Diffusion and osmosis. Surface phenomena; colloids, absorption, and imbibition. Water absorption. Transpiration: rates, measurements, and factors. Frost resistance and death by freezing Injury at high temperatures. Permeability accumulation and antagonism. Mineral nutrition. Nitrogen relations. Translocation of solutes. Enzymes and digestion. Respiration and fermentation Viability dormancy and rest in seeds and other plant parts. The role of organic accessory substances in plant growth. Conditions influencing flowering and fruiting as contrasted with vegetative growth. Growth. Appendixes. Author index. Subject index.

Note: The authors in preparing this textbook for college students taking a first course in plant physiology assumed that readers will have had introductory courses in chemistry and either botany or biology. There is minimum emphasis on the biochemical aspects of plant physiology. Other aspects of plant physiology, such as photosynthesis and water relations, are developed in detail. Each chapter closes with about two pages of bibliographical citations. The book incidentally stresses effective training in scientific methods.

FRANCK, JAMES, AND WALTER E. LOOMIS, editors

Photosynthesis in plants. A monograph of the American Society of Plant Physiologists. Ames Iowa Iowa State College Press, 1949 500 p. illus. 24 cm. $7.50 672

Contents: Photosynthesis—an introduction, by W E. Loomis. Photosynthesis under field conditions, by M. D. Thomas and G. R. Hill. Products of photosynthesis, by J. H. C. Smith. Diffusion through multiperforate septa, by J. Verduin. The chloroplasts: their structure, composition, and development, by S. Granick. Functions and properties of the chloroplast, by H. H. Strain. The photochemistry of chlorophyll, by R. Livingston. Chlorophyll studies, by F Rothemund. Processes accompanying chlorophyll formation, by J. H. C. Smith. The quantum requirement of photosynthesis, by R. Emerson and M. S. Nishimura. Quantum efficiency of photosynthesis in Chlorella, by W. E. Moore and B. M. Duggar. Quantum efficiencies for photosynthesis and photoreduction in green plants, by F F Rieke. A calorimetric determination of the quantum yield in photosynthesis, by W Arnold. The photochemical liberation of oxygen from water by isolated chloroplasts, by A. S. Holt and C. S. French. Chlorophyll fluorescence as an energy flowmeter for photosynthesis, by E. Katz. The relation of the fluorescence of chlorophyll to photosynthesis, by J. Franck. The pattern of photosynthesis in Chlorella, by J. Myers. Some remarks on tracer researches in photosynthesis, by M. D. Kamen. C[14] in photosynthesis, by A. A. Benson and others. Kinetics of photochemical intermediates in photosynthesis, by A. H. Brown and others. Investigation of the chemical properties of intermediates in photosynthesis, by E. W Fager. The comparative biochemistry of photosynthesis, by C. B. Van Niel. Index.

Note: Original papers prepared especially for this volume and a series of papers prepared for a symposium held at Chicago and sponsored by a section of the American Society of Plant Physiologists have been collected in this volume. The result is an authoritative survey of current knowledge, problems, and research techniques. The intended audience consists of scientists working in the field or in related areas. References to pertinent literature accompany each paper.

KRAMER, PAUL JACKSON

Plant and soil water relationships. New York McGraw Hill Book Company, Inc. 1949 347 p. illus. 23 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $6 50 673

Contents: Historical introduction. Soil moisture relations. Factors affecting the supply of soil moisture. Measurement and control of soil moisture. Structure and growth of roots. Factors affecting the development of root systems. Root and stem pressures and exudation phenomena. Processes concerned in water absorption. Factors affecting the absorption of water. The absorption of solutes. Absorption deficits and their effects on plants. Bibliography. Author index. Subject index.

Note: A textbook intended for teachers, investigators, and students in all fields of plant science who are interested in the principles governing plant and soil water relations. Following a review of the early development of plant physiology the author proceeds to present the fundamental facts of the subject in relatively simple terms for the benefit of those working in the various basic and applied plant sciences rather than for specialists in plant-water relations. The author writes on the basis of a number of years of research on the absorption of water by plants. The bibliography extends to 14 pages.

MEYER, BERNARD SANDLER, AND DONALD B ANDERSON

Plant physiology Second edition. New York D Van Nostrand Company Inc. 1952 784 p. illus. 24 cm. $8 50 674

Contents: The field of plant physiology. Properties of solutions. Colloidal systems. Plant cells. Diffusion. Osmosis and osmotic pressure. Imbibition. The water relations of plant cells. The loss of water from plants. The stomatal mechanism. Factors affecting transpiration. The translocation of water. Soils and soil-water relations. Absorption of water. The internal water relations of plants. Enzymes. The chlorophylls and the carotenoids. Photosynthesis. Factors affecting photosynthesis. Carbohydrate metabolism. Respiration. The mechanism of respiration. Fat metabolism. Absorption of mineral salts. Utilization of mineral salts. Nitrogen metabolism. Translocation of solutes. Plant hormones. Vegetative growth. Environmental factors affecting vegetative growth. Reproductive growth. Environmental factors influencing reproductive growth. Growth correlations. Germination and dormancy. Growth periodicity. Plant movements. Author index. Subject index.

Note: (1939) A thoroughly revised edition of a standard college textbook. Prerequisite courses in general botany and general chemistry on the part of the student have been assumed. Like the original edition, the revision emphasizes experimental results and the interpretation of plant processes in terms of physicochemical principles. Most of the presentation is based directly on data selected from the original literature of the subject. In the new edition the chapters on various aspects of water relations have been somewhat abridged, with corresponding expansion of the chapters on metabolic processes and growth. A new chapter on enzymes replaces the former chapter on digestion. The extensive bibliographies of books and periodical articles printed at the conclusion of each chapter have been brought up to date.

RABINOWITCH EUGENE I.

Photosynthesis and related processes. Volume II, Part I Spectroscopy and fluorescence of photosynthetic pigments kinetics of photosynthesis. New York Interscience Publishers Inc., 1951 603–1208 p. 24 cm. $15 00 675

Contents: Part Three, Spectroscopy and fluorescence of photosynthetic pigments: Absorption spectra of pigments in vitro. Light absorption by pigments in the living cell. Fluorescence of pigments in vitro. Fluorescence of pigments in vivo. Part four Kinetics of photosynthesis: Methods of kinetic measurements. External and internal factors in photosynthesis. Concentration factors. The light factor: I, Intensity; II, Maximum quantum yield of photosynthesis; III, Photosynthesis and light quality; role of accessory pigments. Index.

Note: (154*) Advances in the knowledge of photosynthesis since 1945 due partly to the use of radioactive carbon as a tracer in studying photosynthetic processes, have been so substantial that volume II of this work is both a continuation and a supplement to the first volume. The work remains a comprehensive, critical digest of the published literature. It is addressed to workers in the field and to chemists and physicists about to begin research in it or for some other reason in need of a technical review of its current state.

SKOOG FOLKE editor

Plant growth substances. Madison, Wis. University of Wisconsin Press, 1951 476 p. illus. 24 cm. $6 00 676

Contents: Plant growth substances: The history and nature of plant growth hormones, by A. J. Haagen-Smit. The synthetic auxins: relation between structure and activity by K. V Thimann. Growth and structure of the primary wall, by T Kerr. Mechanisms of cell elongation, by H. Burström. Control of evolution and life processes in plants, by A. F Blakeslee. Twenty years of plant hormone research, by F W Went. Plant hormones in practice, by P W Zimmerman. Growth substances in plant metabolism: The study of growth substances in plant metabolism, by R. H. Burris. Changes in metabolism during growth and its inhibition, by K. V Thimann and others. Stimulation of respiration in relation to growth, by G. S. Avery Jr. Respiratory changes in relation to toxicity by F G. Smith. Tissue responses to growth substances: Electrical polarity and auxins, by A. R. Schrank. Translocation of growth regulating substances and their effect on tissue composition, by J. W Mitchell. Histological responses to growth-regulating substances, by J. M. Beal. Comparative effects of growth substances on stem anatomy by B. R. Strackmeyer. Formative effects of hormone-like growth regulators, by P W Zimmerman. Practical applications of growth regulators: Vegetation control on nonagricultural land, by K. C. Barrons. Differential responses in crop plants, by R. S. Dunham. Growth substances in relation to the production of tree fruits, by F E. Gardner. Use of growth substances in tropical agriculture, by J van Overbeek. Growth substances in vegetative development. The role of growth substances in vegetative development as exemplified in the

sue cultures, by P. R. White. Factors influencing the growth of plant embryos, by N. K. Ziebur. Growth substances and the formation of buds in plant tissues, by F. Skoog and C. Tsui. The development of stems and leaves, by F. W. Went. Growth substances in reproductive development: Chemical regulation of sexual processes in fungi, by J. R. Raper. The sexual substances of algae, by G. M. Smith. Growth regulating substances in relation to reproduction of some horticultural plants, by A. E. Murneek. The induction of flowering with plant extract, by R. H. Roberts. Fruit development as influenced by growth hormones, by F. G. Gustafson. The growth hormone mechanism in fruit development, by R. M. Muir. Growth substances in fruit setting, by S. H. Wittwer. Growth substances in pathological growth: Experimental induction and inhibition of overgrowths in plants, by R. S. de Ropp. In vitro experiments on tissues of pathological origin, by A. C. Hildebrandt. The interaction between causative agents in diseased growth, by A. J. Riker and J. E. Thomas. Deformities caused by insects, by T. C. Allen. Comparative studies of metabolism in insect galls and normal tissues, by E. H. Newcomb. Vitamins and amino acids as growth factors: Growth factors in bacterial nutrition, by E. E. Snell. Genetic aspects of growth responses in fungi, by E. L. Tatum. Vitamin and amino acid requirements for the growth of higher plants, by W. J. Robbins.

Note: The papers published in this volume were presented in general meetings and round table discussions at the University of Wisconsin, September 5–7, 1949. They cover all aspects of the physiology, biochemistry, chemistry, and agricultural uses of plant growth substances. Bibliographical references are printed at the end of each paper.

TRUOG, EMIL, editor

Mineral nutrition of plants. Madison, The University of Wisconsin Press, 1951. 469 p. illus. 24 cm. $6.00 677

Contents: Mineral nutrition of plants: World food possibilities and fertility status of our soils, by C. E. Kellogg and A. C. Orvedal. Physico-chemical and biological factors affecting nutrient availability in soils: Soil as a medium for plant growth, by E. Truog. The activities of cations held by soil colloids and the chemical environment of plant roots, by C. E. Marshall. The availability of soil anions, by R. Overstreet and L. A. Dean. Contact phenomena between adsorbents and their significance in plant nutrition, by H. Jenny. The effect of soil physical properties on nutrient availability, by J. B. Page and G. B. Bodman. Role of soil microorganisms in nutrient availability, by A. G. Norman. Mechanism of entry and translocation of mineral nutrients in plants: The nature of the process of inorganic solute accumulation in roots, by T. C. Broyer. The mechanism of ion absorption, by H. Burström. The translocation of minerals in plants, by O. Biddulph. Some field problems in plant nutrition: Control of nitrogen effects on McIntosh apple trees in New York, by D. Boynton. Production of vegetable crops for the canning industry, by J. B. Hester. Role of minerals in plant nutrition: Growth and function as criteria in determining the essential nature of inorganic nutrients, by D. I. Arnon. Mineral nutrition in relation to the ontogeny of plants, by W. F. Loehwing. Correlations between protein-carbohydrate metabolism and mineral deficiencies in plants, by R. A. Steinberg. Modifying influences of various environmental factors upon mineral nutrition: Light as a modifying influence on the mineral nutrition of plants, by R. B. Withrow. Soil moisture and the mineral nutrition of plants, by C. H. Wadleigh and L. A. Richards. Environmental influences on the growth of sugar cane, by H. F. Clements.

Note. This volume is composed of original papers which were presented at a symposium sponsored by the University of Wisconsin as one of the events in celebration of its centennial. In general the papers are addressed to graduate scientists who are concerned with research in connection with horticulture, plant biochemistry, and plant physiology and they are written in technical terminology. Most of them are accompanied by references to the literature. There is no volume index.

ZOOLOGY

GENERAL

ALLEE, WARDER CLYDE, AND OTHERS

Principles of animal ecology By W C. Allee, Alfred E. Emerson, Orlando Park, Thomas Park, Karl P Schmidt. Philadelphia W B Saunders Company 1949 837 p. illus. 26 cm. $14.00 678

Contents (abridged) Section I, The history of ecology Section II, Analysis of the environment The general environment. Heat. Light. Gravity pressure, and sound. Currents of air and of water. The substratum. Physicochemical and chemical phases. Water. The atmospheric gases. Dissolved salts as limiting factors. Combinations of environmental factors. Ecological relations of soil. Biotic factors in relation to individuals. Section III, Populations General properties of populations. Biological backgrounds for population studies. Certain demographic backgrounds for population studies. The growth form of populations. Population factors and selected population problems. Animal aggregations. The organization of insect societies. Section IV, The community: Community organization—stratification—metabolism—periodism. Community succession and development. Biome and biome-type in world distribution. Section Ecology and evolution Ecology and genetic variation. Ecology and isolation. Adaptation. Natural selection. Evolution of interspecies integration and the ecosystem. Bibliography and author index. Subject index.

Note: A presentation in the form of college textbook of the principles of ecology with emphasis on the animal factors. Throughout the work the authors give samplings of the evidence on which the principles of ecology are based, and frequent references are made to the bibliography of the subject, which covers more than 50 double-columned pages at the end of the book. The work may be used in university courses as textbook and by professional zoologists and other scientists as summary of the present status of animal ecology

DEVOE, ALAN

This fascinating animal world. New York McGraw Hill Book Company Inc. 1951 303 p. illus. 21 cm. $3 75 679

Contents: The nature of this book. Animals in general. Mammals. Birds. Insects. Snakes. Fish. Animal variety The adventure of animals. Index.

Note: A well-written book of miscellaneous information about animals. It provides authentic answers for such questions as "Can porcupines throw their quills?" "Can fish drown?" and "Is there such thing as white elephant?" However, it is not mere miscellany Its contents are such that practically everyone who reads it through will gain more profound understanding of animals and of life processes such as evolution and reproduction. The book is intended for popular reading and reference; hence, there are no references to related literature.

DRIVER, ERNEST CHARLES

Name that animal a guide to the identification of the common land and fresh-water animals of the United States, with special reference to the area east of the Rockies. With drawings by Olive Driver Second edition Northampton, Mass. The author 1950. 558 p. illus. 23 cm. $6.50 680

Contents: Introduction Protozoa. Moss-like and jelly-like animals. Rotifers and gastrotrichs. Worm-like and leech-like animals. Mollusks. Arthropods. Fishes Salamanders. Frogs and toads. Lizards. Snakes. Turtles. Birds. Mammals. Eggs. Tracks.

Note: (1940) This work is classified and illustrated guide for the identification of land and fresh-water animals of eastern North America. It is designed to serve the needs of those who are not specialists in zoology and yet wish an introduction to the principal genera and species of the various orders of animals. The second edition is revised and enlarged from the first edition. Additions have been made to the keys and to the lists of references, as well as to the text.

FARRIS, EDMOND JOHN, editor

The care and breeding of laboratory animals. New York John Wiley & Sons, Inc., 1950 515 p. illus. 23 cm $8.50 681

Contents: The monkey by G. van Wagenen. The rat as an experimental animal, by E. J. Farris. The care of experimental mice, by L. C. Strong. The guinea pig, by H. L. Ibsen. Breeding and care of the Syrian hamster, by E. M. Poiley The rabbit, by P. B. Sawin. The dog, by L. F Whitney The domestic cat, by A. R. Dawson. Ferrets, by T H. Hammersla. The opossum, by E. J Farris. The domestic fowl, by F B. Hutt. Reptiles, by C. M. Pope. Amphibia, by R. C. Hutchinson. Fishes as laboratory animals, by M. Gordon. Drosophila, by W P Spencer. The control of laboratory pests and parasites of laboratory animals, by W E. Dove. Index.

Note: In this valuable book each author discusses an animal with which he has worked; consequently the text abounds in details that would not be found in book written solely from the literature. In most chapters the following points are covered: cages, equipment, record keeping, handling, reproduction, diet, disease, shipping regulations and procedure. References to the literature accompany each chapter The book was written primarily for professionally trained personnel associated with university and other experimental laboratories. Although the commercial raising of laboratory animals for sale is not covered, it does contain valuable information for persons engaged in this business.

HIGMAN HARRY WENTWORTH AND EARL J LARRISON

Union Bay the life of a city marsh. Illustrated by Edmund J Sawyer Seattle University of Washington Press, 1951 315 p. illus. 21 cm. $4.00 682

Contents: The marsh in Union Bay How the tule wrens acquired summer quarters. The marsh is hotel. The tail slapper A wren's worm. The bill of fare. Shells on Union Bay The white pigeon. The track near the marsh. Introducing mudskipping new Arrowhead, squaw's loom, and other things. The humpbacked shrubland that goes to sea. Among the guests registered. A firm nest. How new water witch came to the marsh. Teeters, sords, and bobs. How the green heron wandered. Marsh symphony Quintet. Pipkins and dowitchers. Sky sweepers. Wild fowl and man. Who killed Cock Robin? Fog is persistent. The spoilers lose control.

Note: A book of essays about the wildlife in marsh located in well populated district in the city of Seattle, Washington. The main theme is the interrelation between the wildlife and the adjacent settlement of man, but this idea is not overemphasized. The book is essentially collection of sensitive writing about marsh life as observed by these two authors, and it is addressed to lay readers rather than to specialists.

LEY WILLY

Dragons in amber further adventures of a romantic naturalist. New York The Viking Press 1951 328 p illus. 21 cm. $3 75 683

Contents: Part one, Records in stone: The tears of the Heliades. The secret of the blue earth. Footprints in red sandstone. The dragon from the Lias epsilon. The mammal from the permafrost. Part two, The last of their kind: The story of the snake. Stronghold of the pandas. A bird known as takahe. Green fossil. The forest of the dinosaurs—sequoias. The forest of the dinosaurs—cycads. Part three, Wanderers across the planet: The story of the fish Anguilla. The re-

turn of native. Wanderers across the planet. The islands of adventive fauna. Index.

Note. An interesting book in which there are several fascinating accounts of zoological discovery and research and also some stories about fossils. It is designed for the general reader. The various chapters are more or less independent accounts and are written in the vein of *The kingfish the dodo, and the unicorn* by the same author. Drawings are by the author's wife, Olga Ley. Two chapters originally appeared in condensed form in *Natural history magazine.*

PETERSON, ROGER TORY

Wildlife in color Sponsored by the National Wildlife Federation. Boston Houghton Mifflin Company, 1951 191 p illus. (col'd) 20 cm. $3 00 684

Contents: Wildlife in color Near home—the towns and farms. The deciduous woodlands. The North Woods country (the coniferous forest). Water the blood of the earth. The swamps and fresh marshes. The coast and the sea. The South. Grass country (the prairies and the plains) The desert. The West. The Far North and the Arctic. Index.

Note A novelty among books on nature. It contains 453 illustrations in full color all of which are reproductions of paintings made for the National Wildlife Federation from 1939 to 1951 by noted wildlife artists. They were first reproduced and sold in the form of stamps to further conservation of wildlife. In this book the reproductions are in the same size as the stamps, some being as large as 2 in. by 2½ in. and others being 2 in. by 1¼ in. Wild flowers as well as animals are illustrated. The text is written for popular reading and is built upon the theme of conserving wildlife.

TEXTBOOKS

HEGNER, ROBERT WILLIAM, AND KARL A. STILES

College zoology Sixth edition. New York The Macmillan Company 1951 911 p. illus. (part col d) 24 cm. $6.50 685

Contents (abridged) Protoplasm and cellular organization. Phylum Protozoa. Relations of Protozoa to man. Introduction to the Metazoa. Phylum Porifera Phylum Coelenterata. Phylum Ctenophora. Phylum Platyhelminthes. The roundworms. Phylum Annelida. Phylum Arthropoda. Phylum Mollusca. Phylum Echinodermata. Phylum Chordata. A representative vertebrate—the frog Subphylum Vertebrata. Nutritive processes and transportation in animals. Skeletal structures and movement. Coordination and behavior Reproduction and development. Heredity Ecology and geographical distribution. The origin and history of animal life History of zoology Glossary Index.

Note (1541) A long-established college textbook organized on the pedagogical principle of studying first the simpler animals, then proceeding gradually to the complex. The main arrangement is by phylogenetic groups, and general principles are in the main deduced from study of the groups. Although in this edition the book has been extensively revised, the main plan of organization has been retained About 100 new illustrations have been added, and the glossary has been considerably expanded Professor Stiles—who is responsible for the sixth edition—is a member of the faculty of Michigan State College.

STORER, TRACY IRWIN

General zoology Second edition. New York McGraw Hill Book Company 1951 832 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences, E. J Boell, consulting editor) $6.50. 686

Contents (abridged) Part I, General animal biology: The frog as representative animal. Protoplasm, cells, and tissues. Organs and organ systems. Reproduction and development. Heredity and genetics. Animal ecology Organic evolution. History of zoology Classification and nomenclature. Part II, The animal kingdom. Glossary Index.

Note. (1546) A general introductory text for colleges and universities. The first part—which accounts for approximately one-third of the book's length—contains chapters on the general aspects of animal biology including organ systems and evolution. The second part is traditional arrangement of descriptive material arranged by phyla and classes. The illustrations are numerous and are well executed. A detailed index makes the book useful for elementary reference. A fair number of additions and revisions have been made in the present edition. These include the adding of recent books to the lists of references.

WEIMER, BERNAL ROBINSON

Man and the animal world. New York John Wiley & Sons, Inc. 1951 569 p. illus. (part col d) 23 cm. $5.00 687

Contents (abridged) Biology and the scientific method. Life and living things. Metabolism. Foods and their uses. The blood and circulatory system. Adjustment to environment. Growth and reproduction. The mechanism of heredity Human heredity and eugenics. The scientific naming of animals—taxonomy Protozoa, sponges, and coelenterates. Flatworms, roundworms, and segmented worms. Arthropoda. Mollusks and echinoderms. Chordates. Animals and their environment—ecology Life, its nature and origin. The theory of evolution. The course of evolution. Index and glossary

Note: An elementary textbook of zoology on the college level. Features of the presentation include: approach to the animal kingdom through man as the living animal best known to the student; inclusion of practical aspects of zoology, such as the ways in which animal organisms influence human health, emphasis on the scientific method, and careful adaptation of illustrations to textual material. The author is Professor of Biology in Bethany College.

INVERTEBRATES (EXCEPT INSECTS)

BAER, JEAN GEORGES

Ecology of animal parasites. Urbana, Ill. The University of Illinois Press, 1951. 224 p. illus. 28 cm. $5 00. 688

Contents: Introduction. Part I, Animal associations, definitions. Part II, Adaptations to parasitism Protozoa. Mollusca. Turbellaria. Annelida. Gordiacea. Arthropoda: Crustacea: Copepoda. Cirripedia. Isopoda. Amphipoda. Summary of parasitic adaptations among crustaceans. Acarina. Insecta. Nematoda. Pentastomida. Acanthocephala. Trematoda: Monogenea. Digenea. Cestodaria. Cestoda. Part III, Host-parasite relationships: Host specificity The action of parasites upon their hosts. Part IV, Physiology of parasites: Physiology of parasitic protozoa: Blood parasites. Intestinal symbionts and parasites. Physiology of parasitic helminths: Somatic helminths. Intestinal helminths. Conclusions. In vitro cultures of parasitic helminths. Part Origin of parasitism. Index.

Note: A study of animal parasitism adapted from the material presented in two courses in parasitology given in the Graduate College of the University of Illinois by visiting professor from the University of Neuchâtel. How parasitism had its beginning and what are its present forms are among the matters discussed. The zoological and ecological rather than the medical and veterinary aspects of the subject are emphasized. Adaptations to parasitism are examined from both the morphological and the biological angles, with stress laid on the latter. The illustrative drawings, which number more than 150, are the work of Katherine Hill Paul. Bibliographical references appear at the ends of the chapters. This is an advanced work of interest to ecologists in general and of particular interest to invertebrate zoologists and helminthologists.

BAKER EDWARD WILLIAM, AND G W WHARTON

An introduction to acarology New York The Macmillan Company 1952 465 p. illus. (part col d) 22 cm. $10 00 689

Contents. Introduction. The suborder Onychopalpida Wharton, 1947 The suborder Mesostigmata G. Canestrini, 1891. The suborder Ixodides Leach, 1815. The suborder Trombidiformes Reuter 1909. Hydrachnellae Latreille, 1802. The suborder Sarcoptiformes Reuter, 1909 Oribatei Dugès, 1833. Index.

Note An elementary yet very comprehensive book on mites. The introduction covers the general structure, development, and ecology of mites. The families then are taken up one by one, with suitable keys to assist in identification. For each family the following information is given if known. diagnosis, list of genera and their type species, discussion including the biology the economic, or medical importance with emphasis on the species involved, and series of references to pertinent literature. Line drawings are included. The work is intended not only as guide to the professional

entomologist but also for the information of those in related fields, including agricultural entomology, ecology and medical parasitology

Brown Frank Arthur, jr. editor
Selected invertebrate types. New York John Wiley & Sons, Inc. 1950. 597 p. illus. 24 cm $6 00. 690

Contents (abridged) Phyla: Protozoa. Mesozoa. Porifera. Coelenterata. Ctenophora. Platyhelminthes. Rhynchocoela. Acanthocephala. Aschelminthes. Entoprocta. Ectoprocta. Phoronidea. Annelida. Echiuroidea. Sipunculoidea. Mollusca. Brachiopoda. Onychophora. Arthropoda. Linguatula. Tardigrada. Chaetognatha. Echinodermata. Enteropneusta. Chordata. Bibliography. Index.

Note: The authors of this work are W. Bohmuth, F. A. Brown, Jr., J. B. Buck, W. D. Burbanck, C. G. Goodchild, L. H. Hyman, M. L. Keister, L. H. Kleinholz, J. H. Lochhead, M. E. Pierce, W. M. Reid, M. D. Rogick, and T. H. Waterman, all members and former members of the staff of the Department of Invertebrate Zoology, the Marine Biological Laboratory, Woods Hole, Massachusetts. In the book more than one hundred species of animals commonly used in laboratory instruction and experimentation are described in detail with particular attention to such points as external structure, general organization, feeding and digestion, nervous system and sense organs, muscular system, and reproductive system. The book is suitable for use as a laboratory manual in undergraduate courses and also as a guide for instructors and research workers to species particularly adapted to laboratory use.

Gertsch, Willis John
American spiders. New York D Van Nostrand Company Inc. 1949 285 p. illus. (part col d) 22 cm. (The new illustrated naturalist, *Editorial advisory board* William Beebe and others) $7.50 691

Contents: Introducing spiders. The place of spiders in nature. The life of the spider. Silk spinning and handiwork. Courtship and mating. The evolution of spiders. The tarantulas. The cribellate spiders. The aerial web spinners. The hunting spiders. Economic and medical importance. The North American spider fauna. Glossary. Bibliography. Index.

Note: A general, readable account of the spiders of the United States and Canada written for the general reader. The selected bibliography of 16 items is a guide to further reading on the same subject. The book contains 64 plates reproduced from photographs, half of them in color.

Hartman, Olga
Goniadidae, Glyceridae and Nephtyidae. Los Angeles, California The University of Southern California Press 1950 181 p illus. 23 cm. (Allan Hancock Pacific expeditions. Vol. 15 no 1) $3.50 692

Note: A systematic report based mainly on collections in the Allan Hancock Foundation at the University of Southern California but also on collections in other museums. It contains descriptions of several newly recorded species and sub-species. The species descriptions include literature references, a record of the site of collections, morphological descriptions, and records of distribution. There are 19 plates of original drawings.

Holthuis Lipke B
A general revision of the *Palaemonidae* (Crustacea, Decapoda, Natantia) of the Americas. I, The subfamilies *Euryrhynchinae* and *Pontoniinae* II, The subfamily *Palaemoninae*. Los Angeles, Calif The University of Southern California Press 1951–52 2 v illus. 24 cm. (Allan Hancock Foundation publications. Occasional paper Nos. 11 12) $6.00 each. 693

Note: This monograph of the Palaemonidae from the Americas contains a complete list of all known species; there are keys to all genera and species, and there are full synonymies with distributional records for each species. In most cases, a description and figures accompany each species. The author has divided the family *Palaemonidae* into four subfamilies, based on degree of fusion of the rami of the upper antennular flagellum, and on mandibular and other characteristics. Three of the subfamilies are represented in America. There are numerous notes on color in life, stages of development, size variations, including abnormal figures, stages of reproductive development, and many comments on affinities with nearly related species. The two volumes contain 63 and 55 plates, respectively

Hyman, Libbie Henrietta
The invertebrates. Volume II Platyhelminthes and Rhynchocoela The acoelomate Bilateria. Volume III Acanthocephala, Aschelminthes, and Entoprocta The pseudocoelomate Bilaterea. New York McGraw Hill Book Company Inc. 1951 2 v illus. 24 cm. (McGraw Hill publications in the zoological sciences E. J Boell *consulting editor*) $9 00 694

Contents: Vol. II: Introduction of the Bilateria. The acoelomate Bilateria—phylum Platyhelminthes. The acoelomate Bilateria—phylum Rhynchocoela. Index. Vol. III The pseudocoelomate bilateria—phylum Acanthocephala. The pseudocoelomate Bilateria—phylum Aschelminthes. The pseudocoelomate Bilateria—phylum Entoprocta. Index.

Note: (1577) Two additional volumes of a comprehensive monographic treatise on the morphology embryology physiology etc., of the invertebrates. Essentially the work is a critical digest of the literature, but original material based on the author's investigations is also included. Comprehensive literature references are provided for each section. The large number of original drawings is a notable feature. A third and concluding volume is scheduled for early publication.

Kesling Robert Vernon
The morphology of ostracod molt stages. Urbana The University of Illinois Press, 1951 324 p illus. 26 cm. (Illinois biological monographs Harley Jones Van Cleave and others, editorial committee. Vol. XXI, no. 1–3) Paper $3.50 695

Contents. Taxonomy. General description. Detailed description. Biology. Immature stages. Variations in size of instars. Variation in shape of instars. Relation of appendages and internal organs to the shape of the valves in instars. Height-length ratio as a valid character for determination of species. Bibliography. Plates. Index.

Note: A detailed study of *Cypridopsis vidua* carried out in order to "give a full description of a typical living ostracod, some pertinent biological information and a comparison of the valves of the various instars. Chapters 2 and 3 contain a general and anatomical description, chapter 4 describes the egg, embryology, development, molting, swimming, rate of reproduction, life span, etc. The remaining chapters are chiefly descriptions of the molt stages or instars. There are 34 figures in the text and in addition 94 plates containing reproductions of 419 photographs of stained sections.

Lwoff André, editor
Biochemistry and physiology of protozoa. Volume I. New York Academic Press, Inc. 1951 434 p 24 cm. $8.80 696

Contents: Introduction to biochemistry of protozoa, by A. Lwoff. The phytoflagellates, by S. H. Hutner and L. Provasoli. The nutrition of parasitic flagellates (Trypanosomidae, Trichomonadinae) by M. Lwoff. Metabolism of Trypanosomidae and Bodonidae, by T. von Brand. Nutrition of parasitic amebae, by M. Lwoff. Biochemistry of plasmodium and the influence of antimalarials, by R. W. McKee. The biochemistry of ciliates in pure culture, by G. W. Kidder and V. C. Dewey. Author index. Subject index.

Note. The biochemistry of protozoa is of considerable scientific interest. This work is an attempt to bring together, in the form of a two-volume collection of original papers, the present knowledge of the subject, even though in some areas the information is still meager. The papers, written by recognized authorities, are addressed

to other professional workers in biochemistry. Each is accompanied by a substantial bibliography

MORRIS, PERCY A.
A field guide to the shells of our Atlantic and Gulf coasts. Revised and enlarged edition. Illustrated with photographs. Boston Houghton Mifflin Company 1951 236 p illus (part col d) 19 cm. (The Peterson field guide series) $3 75 697

Contents (abridged) The pelecypods. Gastropods. Glossary of descriptive terms. Index. $3.75.
Note: (571) A standard handbook for amateur naturalists and collectors. It contains descriptions in non-technical language of marine shells that can be collected along the Atlantic and Gulf coasts of the United States. All of the larger and more common forms are described. From 7 to 15 lines of description are given for each species. The book is illustrated with reproductions of photographs of 218 species and subspecies of pelecypods and 276 species and subspecies of gastropods. In this second edition the number of species described has been increased by 112 and the common or popular names of the species wherever established have been added.

OSBURN RAYMOND CARROLL
Bryozoa of the Pacific Coast of America. Part 1 Cheilostomata Anasca. Part 2 Cheilostomata Ascophora. Los Angeles, California The University of Southern California, 1950 1952 611 p. illus 24 cm. (Allan Hancock Pacific expeditions. Vol. 14 number 1–2) $5 00 698

Note: A report based chiefly on specimens of Bryozoa that were collected during ten cruises of the Velero III during the years 1931–1942. Except for some concise preliminary matter which includes short glossary of zoological terms that have special application in the Bryozoa, the work is cast in the form of systematic catalogue. The species descriptions cover literature references, morphology and in many cases discussions of conflicts between the authors' observations and the records of others. Also, information on range is usually included. The two volumes contain together 64 plates of original drawings based on Pacific Coast specimens.

RICKETTS EDWARD FLANDERS, AND JACK CALVIN
Between Pacific tides. An account of the habits and habitats of some five hundred of the common conspicuous seashore invertebrates of the Pacific Coast between Sitka Alaska, and northern Mexico Third edition. Revised by Joel W Hedgpeth. Foreword by John Steinbeck. Line drawings by Ritchie Lovejoy Stanford, Calif Stanford University Press 1952 502 p illus (part col d) 24 cm. $6 00 699

Contents: About this book and Ed Ricketts, by J Calvin and J. W Hedgpeth. Introduction. Protected outer coast Rocky shores. Sandy beaches. Open coast Rocky shores. Sandy beaches. Bay and estuary: Rocky shores. Sand flats. Eelgrass Mud flats. Addendum: The Tomales Bay tidal flats. Wharf pilings: Exposed piles. Protected piles. Plankton Marine plankton of the Pacific Coast. Intertidal zonation and related matters Newcomers to the Pacific Coast. Appendix: Annotated systematic index and bibliography. Selected list of non-specific books and accounts. General index.
Note: (572*) An outstanding book designed for amateur naturalists and laymen here curiosity is aroused by the life forms inhabiting the tidal waters of the north temperate Pacific Coast. It is written in an engaging style but is somewhat more advanced than the usual popularization of biological knowledge. The information about each creature is written in narrative style—not tabulated—and usually covers habitat, appearance, reproductive cycle, and collecting techniques. The edition of 1948 was "admittedly an interim printing, since large amount of wartime research was not yet accessible. In the 1952 edition the new editor taking account of information published since the original edition of 1939 has made corrections and changes to bring the book up to date. The text remains essentially as the original authors left it, though new paragraphs have been added here and there, and some old ones have been rewritten. Some of the photographs and drawings have been replaced and some new illustrations added.

SNODGRASS ROBERT EVANS
A textbook of arthropod anatomy Ithaca, New York Comstock Publishing Associates (a division of Cornell University Press) 1952 363 p illus. 24 cm. $6.00 700

Contents: Introduction. The Trilobita. Limulus. The Eurypterida. The Pycnogonida. The Arachnida. The Crustacea. The Chilopoda. The Diplopoda. The Pauropoda. The Symphyla. The Hexapoda. References. Indexes.
Note Although labelled textbook, this survey of the comparative anatomy of the arthropods merits reading by anyone interested in the subject whether he be student or graduate. The author has made real contribution in bringing the scattered facts together and integrating them. The style is technical, but not cryptic. Unsolved problems are mentioned frequently in such sentences as "Inasmuch as no other arachnid has head structure comparable with the capitulum of the Acarina, it becomes somewhat of problem to understand how the acarine capitulum has been evolved from ordinary arachnid parts. There are 88 figures, each of which contains from five to ten reproductions of drawings of good quality. The list of references runs to twelve pages.

TATTERSALL WALTER MEDLEY
A review of the Mysidacea of the United States National Museum. Washington, D C. Government Printing Office, 1951 292 p. illus. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 201) Paper $1 00 701

Contents Introduction. Systematic distribution. Geographical distribution. History of American Mysidacea. Systematic discussion. Class Crustacea. Subclass Malacostraca. Division Peracarida. Order Mysidacea. Suborder Lophogastrida. Family Lophogastridae. Family Eucopiidae Dana. Suborder Mysida: Family Petalophthalmidae Czerniavsky. Family Mysidae. Subfamily Boreomysinae. Subfamily Siriellinae. Subfamily Gastrosaccinae. Subfamily Mysinae: Tribe Erythropini. Tribe Leptomysini. Tribe Mysini. Tribe Heteromysini. Species not represented in the collections of the United States National Museum. New genera, species, and varieties described herein. Literature cited. Index.
Note. A systematic description of 120 species of mysids, 19 of which are new and the majority of which are of American origin. The species are mostly from the collection of the United States National Museum. The work forms an introduction to the mysidacean fauna of the American continents. Under each species references to the literature are given, and the 20 page bibliography lists all known dealing with American species.

WARDLE, ROBERT ARNOLD, AND JAMES ARCHIE MCLEOD
The zoology of tapeworms. Minneapolis, Minn. Published for the University of Manitoba by the University of Minnesota Press, 1952 780 p illus. 24 cm. $12 50 702

Contents (abridged) Part I, General features: Life cycle. Biology Origin and evolution. History and classification. Part II, Tapeworm classification. References. Index.
Note: A large and detailed work by two University of Manitoba scientists who from the extensive literature of the subject and from their own observations present the general history, biology and taxonomy of the tapeworms of the world. All of the known families and genera and the majority of the known species are described in systematic order. Identification keys and numerous illustrations are provided. The viewpoint is zoological and medical aspects are not covered. The bibliography runs to 104 pages.

INVERTEBRATES INSECTS

BARBER, HERBERT SPENCER

North American fireflies of the genus Photuris. With preface and notes by Frank A. McDermott. Washington D C. The Smithsonian Institution 1951 58 p. illus. 24 cm. (Smithsonian miscellaneous collections. Vol. 117 number 1 Publication 4051) Paper $0.50 703

Contents: Introduction. Observations on adult behavior Nomenclature. Species of *Photuris*. Species here distinguished. *Photuris* male genitalia. Table of species of *Photuris*. Addendum (by F A. McDermott) Notes on some general characters of North American *Photuris*. Results of the examination of Barber's specimens. Literature cited.

Note: A study of *Photuris* fireflies with special attention to the taxonomy of the genus. It was based upon field studies, many of them made in and around Washington, D. C. Described are 19 species and varieties, of which 11 are new. Flashing conduct is considered as [illegible] means of species differentiation. A diagram is included to illustrate the flash intervals of the males of the different species of *Photuris*. Prepared for publication after the death of the author by [illegible] friend and collaborator the work was published on the Thomas Lincoln Casey Fund.

BATES, MARSTON

The natural history of mosquitoes. New York The Macmillan Company 1949 379 p. illus. 21 cm. $5.00. 704

Contents: Introduction. The environment of the adult. Survival and dispersal. The sexual behavior of mosquitoes. Food habits of the adult. Egg development and oviposition. Mosquito eggs. The larval environment. The physiology and behavior of larvae. The biological environment of the larva. The classification of larval habitats. The pupal stage. Mosquitoes in relation to other organisms. Mosquitoes as vectors of viruses. Mosquitoes as vectors of plasmodia. The species problem. The classification of mosquitoes. The distribution of mosquitoes. Techniques in mosquito study. The strategy of mosquito research. Appendix: Systematic list of mosquito species. Bibliography. Index.

Note: A comprehensive scientific account of mosquitoes viewed as living animals. All phases of this insect and its ecology are discussed except identification and control. The author is associated with the International Health Division of the Rockefeller Foundation. The book is of interest to biologists and also to public health workers. The bibliography is more or less limited to literature published since 1939; nevertheless it runs to 46 pages.

BERNER, LEWIS

The mayflies of Florida. Gainesville University of Florida Press 1950 267 p. illus. 26 cm. (University of Florida studies. Biological science series. Vol. IV, no. 4) $5.50. 705

Contents. Introduction. Historical review. The order Ephemeroptera. Primitive and specialized characters. Families of mayflies. Wing venation of mayflies. Taxonomic characters. A comparison of Florida mayflies with the northern fauna. Zoogeography. Climatic divisions of Florida. Habitats of Florida mayflies. Key to Florida mayflies. Species of Florida mayflies. Annotated list of mayflies. References. Index.

Note. A comprehensive study of the Ephemeroptera occurring in Florida. It was based on extensive field studies during the course of which 80,000 specimens were collected and examined and some new species were discovered. The greater part of the volume is taken up with systematic descriptions arranged by genera and species. However the descriptions are exceptionally full and often include accounts of personal observations as well as conventional information on taxonomy, distribution, ecology, habits, life history etc. There are 24 plates based on original drawings.

BLACKWELDER RICHARD ELIOT

The generic names of the beetle family Staphylinidae, with an essay on genotypy Washington, D C. Government Printing Office, 1952 483 p 23 cm. (Smithsonian Institution. United States National Museum. Bulletin 200) Paper $1.50 706

Contents: Introduction. The names of genera—Classification of names—Names not accepted into our formal nomenclature. Names accepted into nomenclature. Names herein not accorded separate status. The principle of genotypy. Genotype determination—Methods of fixation of genotypes—Fixation under the plenary powers. Automatic fixation. Original designation. Subsequent designation. Method and arrangement: List of generic names. Appendix of doubtful genera. Systematic list of changes. List of new names proposed herein. Bibliography. A recent paper by Bernhauer. Special comment on Tottenham's second paper. Generic names of Staphylinidae. Appendix of names of doubtful status. Systematic key to changes in application of names. List of new names proposed herein. Bibliography.

Note: An alphabetic listing of the generic names of [illegible] large, heterogeneous, widespread, and complex family of beetles. The list is preceded by an essay on the problems surrounding the use of generic names. Matters covered in the essay include synonymy, homonymy, emendation, errors in spelling, misapplication, zoologically validation, date, author, and priority. The list itself, which presents the facts of the establishment and subsequent use of all the names applied to genera and subgenera of Staphylinidae, extends over 378 pages. The work concludes with [illegible] 48-page bibliography.

CLARK AUSTIN HOBART AND LEILA F CLARK

The butterflies of Virginia (with 31 plates) Washington D C. The Smithsonian Institution 1951 239 p illus. (part col'd) 24 cm. (Smithsonian Institution. Smithsonian miscellaneous collections. Vol. 116 no 7) Paper $2.25 707

Contents: Introduction. Distribution of butterflies in Virginia. Keys to the butterflies of Virginia. Annotated list of butterflies of Virginia: Family Satyridae. Family Apaturidae. Family Nymphalidae. *Family Argynnidae. Family Danaidae. Family Libytheidae.* Family Riodinidae. Family Lycaenidae. Family Pieridae. Family Papilionidae. Family Hesperiidae. Erroneous records. Bibliography. Plates. Index.

Note: A monograph describing in systematic fashion the distribution of 134 known butterfly species of Virginia. The work is based upon an intensive study by the authors over nearly two decades, during which period they devoted nearly all their spare time to the study utilizing weekends and their annual vacations in visiting all the 100 counties in the state. Records were made personally in more than 800 localities, and these records were supplemented by information supplied by other collectors. Each species listed in the annotated list is illustrated among the plates. The notes for most of the species cover range, variation, occurrence, and seasons.

DEMEREC MILISLAV editor

Biology of Drosophila. New York John Wiley & Sons, Inc., 1950 632 p illus. 22 cm. $12.00. 708

Contents. Normal spermatogenesis in Drosophila, by K. W Cooper. The early embryology of Drosophila melanogaster, by B. P Sonnenblick. Histogenesis, organogenesis, and differentiation in the embryo of Drosophila melanogaster, by D F Poulson. The postembryonic development of Drosophila, by D Bodenstein. External morphology of the adult, by G F Ferris. The internal anatomy and histology of the imago of Drosophila melanogaster, by A. Miller. Collection and laboratory culture, by W P Spencer. Index of names. Subject index.

Note: The purpose of this volume is to provide biologists with detailed and comprehensive description of the normal anatomy, histology and development of an insect widely used in biological research. Photographs, diagrams, and anatomical drawings are used extensively to illustrate the various stages in organic development, and each chapter contains [illegible] two- to three-page bibliography. The book represents the cooperative efforts and original research of seven specialists in this field of biological investigation.

ESSIG EDWARD OLIVER AND FRIEDA ABERNATHY

The aphid genus Periphyllus a systematic, biological & ecological study Berkeley and

to other professional workers in biochemistry. Each is accompanied by a substantial bibliography.

MORRIS, PERCY A.

A field guide to the shells of our Atlantic and Gulf coasts. Revised and enlarged edition. Illustrated with photographs. Boston Houghton Mifflin Company 1951 236 p. illus. (part col'd) 19 cm. (The Peterson field guide series) $3.75 697

Contents (abridged): The pelecypods. Gastropods. Glossary of descriptive terms. Index. $3.75.

Note. (571) A standard handbook for amateur naturalists and collectors. It contains descriptions in non-technical language of marine shells that can be collected along the Atlantic and Gulf coasts of the United States. All of the larger and more common forms are described. From 7 to 15 lines of description are given for each species. The book is illustrated with reproductions of photographs of 218 species and subspecies of pelecypods and 270 species and subspecies of gastropods. In this second edition the number of species described has been increased by 112 and the common or popular names of the species wherever established have been added.

OSBURN, RAYMOND CARROLL

Bryozoa of the Pacific Coast of America. Part 1 Cheilostomata Anasca. Part 2 Cheilostomata Ascophora. Los Angeles California The University of Southern California, 1950 1952 611 p. illus. 24 cm. (Allan Hancock Pacific expeditions. Vol. 14, number 1–2) $5.00 698

Note: A report based chiefly on specimens of Bryozoa that were collected during ten cruises of the Velero III during the years 1931–1949. Except for some concise preliminary matter, which includes a short glossary of zoological terms that have special application to the Bryozoa, the work is cast in the form of a systematic catalogue. The species descriptions cover literature references, morphology and in many cases discussions of conflicts between the author's observations and the records of others. Also, information on range is usually included. The two volumes contain together 64 plates of original drawings based on Pacific Coast specimens.

RICKETTS, EDWARD FLANDERS, AND JACK CALVIN

Between Pacific tides. An account of the habits and habitats of some five hundred of the common, conspicuous seashore invertebrates of the Pacific Coast between Sitka, Alaska, and northern Mexico. Third edition. Revised by Joel W. Hedgpeth. Foreword by John Steinbeck. Line drawings by Ritchie Lovejoy. Stanford Calif. Stanford University Press 1952 502 p. illus. (part col'd) 24 cm. $6.00 699

Contents: About this book and Ed Ricketts, by J. Calvin and J. W. Hedgpeth. Introduction. Protected outer coast: Rocky shores. Sandy beaches. Open coast: Rocky shores. Sandy beaches. Bay and estuary: Rocky shores. Sand flats. Eelgrass. Mud flats. Addendum: The Tomales Bay tidal flats. Wharf pilings: Exposed piles. Protected piles. Plankton: Marine plankton of the Pacific Coast. Intertidal zonation and related matters. Newcomers to the Pacific Coast. Appendix: Annotated systematic index and bibliography. Selected list of non-specific books and accounts. General index.

Note. (572*) An outstanding book designed for amateur naturalists and laymen whose curiosity is aroused by the life forms inhabiting the tidal waters of the north temperate Pacific Coast. It is written in an engaging style but is somewhat more advanced than the usual popularization of biological knowledge. The information about each creature is written in narrative style—not tabulated—and usually covers habitat, appearance, reproductive cycle, and collecting techniques. The edition of 1948 was "admittedly an interim printing, since a large amount of wartime research was not yet accessible." In the 1952 edition, the new editor, taking account of information published since the original edition of 1939, has made corrections and changes to bring the book up to date. The text remains essentially as the original authors left it, though new paragraphs have been added here and there, and some old ones have been rewritten. Some of the photographs and drawings have been replaced and some new illustrations added.

SNODGRASS, ROBERT EVANS

A textbook of arthropod anatomy. Ithaca, New York. Comstock Publishing Associates (a division of Cornell University Press) 1952 363 p. illus. 24 cm. $6.00 700

Contents: Introduction. The Trilobita. Limulus. The Eurypterida. The Pycnogonida. The Arachnida. The Crustacea. The Chilopoda. The Diplopoda. The Pauropoda. The Symphyla. The Hexapoda. References. Indexes.

Note: Although labelled a textbook, this survey of the comparative anatomy of the arthropods merits reading by anyone interested in the subject whether he be a student or graduate. The author has made a real contribution in bringing the scattered facts together and integrating them. The style is technical, but not cryptic. Unsolved problems are mentioned frequently in such sentences as "Inasmuch as no other arachnid has a head structure comparable with the capitulum of the Acarina, it becomes somewhat of a problem to understand how the acarine capitulum has been evolved from ordinary arachnid parts." There are 88 figures, each of which contains from five to ten reproductions of drawings of good quality. The list of references runs to twelve pages.

TATTERSALL, WALTER MEDLEY

A review of the Mysidacea of the United States National Museum. Washington D. C. Government Printing Office 1951 292 p. illus. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 201) Paper $1.00 701

Contents: Introduction. Systematic distribution. Geographical distribution. History of American Mysidacea. Systematic description. Class Crustacea. Subclass Malacostraca. Division Peracarida. Order Mysidacea. Suborder Lophogastrida: Family Lophogastridae. Family Eucopiidae Dana. Suborder Mysida: Family Petalophthalmidae Czerniavsky. Family Mysidae: Subfamily Boreomysinae. Subfamily Siriellinae. Subfamily Gastrosaccinae. Subfamily Mysinae: Tribe Erythropini. Tribe Leptomysini. Tribe Mysini. Tribe Heteromysini. Species not represented in the collections of the United States National Museum. New genera, species, and varieties described herein. Literature cited. Index.

Note: A systematic description of 120 species of mysids, 19 of which are new and the majority of which are of American origin. The species are mostly from the collection of the United States National Museum. The work forms an introduction to the mysidacean fauna of the American continent. Under each species references to the literature are given, and the 20-page bibliography lists all known dealing with American species.

WARDLE, ROBERT ARNOLD, AND JAMES ARCHIE MCLEOD

The zoology of tapeworms. Minneapolis, Minn. Published for the University of Manitoba by the University of Minnesota Press, 1952 780 p. illus. 24 cm. $12.50 702

Contents (abridged): Part 1, General features: Life cycle. Biology. Origin and evolution. History and classification. Part 2, Tapeworm classification. References. Index.

Note: A large and detailed work by two University of Manitoba scientists who from the extensive literature of the subject and from their own observations present the general history, biology and taxonomy of the tapeworms of the world. All of the known families and genera and the majority of the known species are described in systematic order; identification keys and numerous illustrations are provided. The viewpoint is zoological and medical aspects are not covered. The bibliography runs to 104 pages.

butterflies and as medium of identification of the species. Every species of importance is illustrated, color being used where important for identification. Information included in the descriptions includes descriptions of chief characteristics, notes on habits and habitats, condensed description of the mature larva, number of annual broods, method of hibernation, average dates of appearance of spring adults, geographic range within the area, and type locality range, and brief characterization of each valid subspecies found within the area. Roger Tory Peterson states of the volume: "The special sections on life zones and their indicator plants, on ecology on the larva and [illegible] of nomenclature, and the discussions of subspecies and geographic variation will be as enlightening to the serious bird student or mammalogist as to the insect collector for they will throw light on their specialties," and adds, "This guide [illegible] is key book in the *Field guide* series, for many of the general discussions will not be repeated elsewhere in the series."

MAYNARD ELLIOTT ALLEN

A monograph of the Collembola or spring tail insects of New York State. Ithaca, N Y Comstock Publishing Company Inc., associated with Cornell University Press 1951 339 p. illus. (part col'd) 24 cm. $7.50. 715

Contents: Part I, Introduction: New York State collection records. Phylogeny of the Collembola. Morphology of the Collembola: external structure. Morphology of the Collembola: internal structure. Life cycle. Habitat. Abundance. Food. Geographical distribution. Economic importance. Collection and preservation of Collembola. Reasons for taxonomic investigation of Collembola. Nomenclature and synonymy. Literature pertaining to the Collembola. Types of new species. Part II, Systematic account: Order Collembola. Key to the suborders of Collembola. Suborder Arthropleona. Key to the superfamilies of Arthropleona. Superfamily Poduroidea. Key to the families of Poduroidea. Family Poduridae. Key to the subfamilies of Poduridae. Family Onychiuridae. Key to the New York genera of Onychiuridae. Superfamily Entomobryoidea. Family Isotomidae. Family Entomobryidae. Key to the New York subfamilies of Entomobryidae. Suborder Symphypleona. Family Sminthuridae. Key to the subfamilies of Sminthuridae. Glossary. Bibliography of the Collembola of the world. Index.

Note: A general and systematic account of the 200 species and varieties of Collembola found in New York State. In the systematic part are detailed descriptions of the various suborders, superfamilies, families, subfamilies, tribes, genera, subgenera, and species, with numerous keys to the New York species. The typical descriptions of the species include bibliographical references, length, color, head, thorax, abdomen, clothing, discussion, and distribution. Distribution is indicated by towns in New York State where found and the dates of collecting and is also indicated for other states of the U. S. A. and for foreign countries where recorded or known. Five of the plates reproduce water-color drawings of springtails in full color. The author indicates his belief that this group of primitive wingless insects is responsible for some of the unsual hidden loss of crops in the United States. The book is [illegible] necessary tool for all persons interested in the study of Collembola.

MICHENER, CHARLES DUNCAN AND MARY H. MICHENER

American social insects a book about bees, ants wasps and termites. New York D Van Nostrand Company Inc., 1951 267 p illus. (part col d) 22 cm. (The new illustrated nat uralist, Editorial advisory board William Beebe and others) $6.00 716

Contents (abridged): Part one, The nature of social insects: What are social insects? Sensations and behavior. Learning and behavior. What determines caste? How insects became social. Subsocial insects. Part two, The hornets and other wasps. Part three, The bees. Part four, The ants. Part five, The termites. Part six, Societies and their parasites. Unexpected guests. Societies of insects and men. Appendix: Insect structure and classification. Bibliography. Glossary. Index.

Note: A popular account of the social insects and their behavior, written by entomologists as an introduction for the reader without previous knowledge of the subject. While all the major species of bees, ants, wasps, and termites found in the United States are named and described, and some of the foreign representatives also are mentioned, the book is more [illegible] readable description of the lives of these insects than [illegible] guidebook for the identification of species. Especially noteworthy are the illustrations from photographs, 30 of them in color and over 75 in black and white.

PETERSON, ALVAH

Larvae of insects. An introduction to nearc tic species. Part II Coleoptera, Diptera, Neuroptera, Siphonaptera, Mecoptera, Trichoptera. Columbus O The author 1951 416 p. illus. 28 cm. $7.00 717

Contents: Introduction. Methods. Larvae of Coleoptera, discussion. Key to families of Coleoptera. Family names of Coleoptera. Descriptions of larvae of common families of Coleoptera. List of some common, important or unusual species of Coleoptera. Larvae of Coleoptera with explanations. Selected bibliography for larvae of Coleoptera. Larvae of Diptera, discussion. Key to families of Diptera. Family names of Diptera. Descriptions of larvae of common families of Diptera. List of some common, important and unusual species of Diptera. Larvae of Diptera with explanations. Selected bibliography for larvae of Diptera. Larvae of Neuroptera, discussion. Keys to families of Neuroptera. Larvae of Neuroptera with explanations. Larvae of Siphonaptera, discussion. Larvae of Siphonaptera with explanations. Larvae of Mecoptera, discussion. Larvae of Mecoptera with explanations. Larvae of Trichoptera, discussion. Key to families of Trichoptera. Larvae of Trichoptera with explanations. Selected bibliography of larvae of Mecoptera, Neuroptera, Siphonaptera and Trichoptera. Glossary for Part II. Food, host or habitat index for Coleoptera. Food, host or habitat index for Diptera. General index for Part II.

Note (1951) This volume is the second of [illegible] two-part work dealing with insect larvae. It contains drawings, keys, and text descriptive of the larval stages of the Coleoptera and Diptera presented in the same complete fashion as the Lepidoptera and Hymenoptera are treated in Part I; and in briefer fashion presents the larvae of the Neuroptera, Siphonaptera, Mecoptera, and Trichoptera. Especial attention is given to larvae of economic importance. Detailed illustrations in enlargement cover 104 pages, with explanations on facing pages. The total number of pages devoted to the Coleoptera is 118, to Diptera, 131, to the other four orders, 24.

RICHARDS ALBERT GLENN

The integument of arthropods the chemi cal components and their properties the anat omy and development, and the permeability Minneapolis Minn. University of Minnesota Press 1951 411 p illus. 24 cm. $6.00 718

Contents. Introduction. Section I, The chemical components, their combinations, their properties: Glucosamine, N-acetylglucosamine, chitobiose, and chitin. Chitin derivatives and metabolic sources. The detection and estimation of chitin. The distribution of chitin in the animal and plant kingdoms. The decomposition of chitin and cuticle in nature. Proteins. Polyphenols and enzymes. Mixed polymers. Pigments. Lipids. Inorganic constituents and calcification. The percentages of cuticular components. Unknown chemical components. The physical properties of cuticle and cuticular components. Section II, The microanatomy and development of the integument: The general structure. Historical and taxonomic résumé. The epicuticle, or non-chitinous cuticle. The procuticle, or chitinous cuticle. Differentiations of the procuticle. Physical colors. The epidermis. The oenocytes, blood cells, and basement membrane. Molting. Muscle attachments, tendons, and apophyses. Wings, gills, epidermal glands, etc. The tracheal system. Sculpturing, setation, and miscellaneous structures. Section III, The permeability of the cuticle: General remarks on the permeability of the cuticle. The penetration of water and gases. The penetration of electrolytes, nonelectrolytes, and insecticides. Bibliographical index of authors. Subject index.

Note: A comprehensive, well organized, and completely documented account of the arthropod integument, which will be of chief interest to entomologists, zoologists, and chemists. It is [illegible] synthesis of the literature of the subject for the use of other scientific workers. The author, an entomologist, gives the other classes of arthropods less attention than the insects, but points out that more work has been done with the integument of insects than with that of other arthropods. The bibliography runs to 77 pages.

SNYDER, THOMAS ELLIOTT

Catalog of the termites (Isoptera) of the world. Washington D C. The Smithsonian Institution, 1949 490 p. 23 cm. (Smithsonian miscellaneous collections. Vol. 112 (whole volume) Publication 3953) Paper $3.00 719

Contents. Introduction. List of the families, subfamilies, genera, and subgenera. Catalog of the termites (Isoptera) of the world: Living termites: Family Mastotermitidae. Family Kalotermitidae. Family Hodotermitidae. Family Rhinotermitidae. Family Termitidae. Not identified as to species. Not classified. Not termites, or of doubtful position. Fossil termites: Family Urakotermitidae. Family Mastotermitidae. Family Kalotermitidae. Family Hodotermitidae. Family Rhinotermitidae. Family Termitidae. Of uncertain or doubtful position. Fossils not termites. Descriptions of new genera. Index to species. Bibliography on the taxonomy of the termites of the world: On living termites. On fossil termites.

Note: A complete catalogue, systematically arranged, of all known species of termites, divided into 133 living genera, 13 fossil genera no longer living, and 17 fossil genera still living. Excepting for new genera, descriptions are not given of the species, genera, and families, but references indicate where in the literature of the subject such descriptions appear. For each species are given the geographical area where found and, when possible, the present location of type specimens.

TRAUB, ROBERT

Siphonaptera from Central America and Mexico, a morphological study of the Aedeagus with descriptions of new genera and species. Chicago Chicago Natural History Museum, 1950 231 p. 21 cm. (Fieldiana Zoology memoirs. Vol. 1) Paper $4 00 720

Contents (abridged) Part I, Descriptions of new genera and species. Part II, The comparative morphology of the Aedeagus of Siphonaptera from Mexico and Central America. Part III, References. Host index. Index. List of abbreviations.

Note: Although twenty-five new species and sub-species and 3 new genera are described in this work, the author has not attempted comprehensive description of the fleas of Central America and Mexico. He points out that such monograph could not be prepared because of the many lacunae in the knowledge of the fleas of this region. His main interest was in the possible taxonomic value of the Aedeagus. Part two is therefore the more important section of the book. There are 34 plates, each of which contains several drawings pertaining to comparative morphology of the fleas of this geographical area.

URQUHART, FREDERICK ALBERT

Introducing the insect. With drawings by E. B S. Logier New York Henry Holt and Company 1949 287 p. illus. (part col d) 24 cm. $5.00 721

Contents. On making an insect collection. Anatomy and life history. Classification and identification. Bristletails and springtails. Grasshoppers, crickets and earwigs. Cockroaches, praying mantids and stick insects. Stoneflies and mayflies. Termites. Booklice, biting lice and sucking lice. Thrips and bugs. Dragonflies and damselflies. Net-winged insects. Scorpionflies and caddisflies. Butterflies and moths. Beetles. Ants, bees and wasps. Flies and fleas. Galls. In conclusion. General reference books. Index.

Note. An elementary book which is equally well adapted for the layman interested in the study of insects as hobby and for students taking an introductory course in entomology. Following three introductory chapters, the important orders and families are described in popular manner but in systematic order with suitable keys and illustrations. The author is Director and Curator of Entomology at the Royal Ontario Museum of Zoology

WEST LUTHER SHIRLEY

The housefly its natural history medical importance, and control. Ithaca, New York Comstock Publishing Company Inc. associated with Cornell University Press 1951 584 p illus. 24 cm. $7 50 722

Contents. Flies and man introductory and historical. External morphology Internal morphology physiology behavior Life history of the fly. Taxonomy and nomenclature. Geographical distribution. Food requirements. Temperature and humidity Miscellaneous ecological factors. Parasites, predators, symbionts, and commensals. Flies and human disease. Public health relations. Myiasis. Are flies beneficial? The fly as an experimental animal. Field, museum, and laboratory techniques. Emergency control. Planned control. Newer insecticides: uses and dangers. Bibliography. Index.

Note. A monograph in which all phases of the subject—morphology physiology behavior life history taxonomy distribution, ecology relation to disease, usefulness in the laboratory and in nature, techniques in the field, museum, and laboratory control measures, and bibliography are covered. It is the first comprehensive treatment of the housefly in book form since 1914. It is substantial enough to be valuable to such professional workers as entomologists and public health specialists, but the style is not too technical for interested laymen and others not accustomed to scientific terminology The bibliography extends over 55 pages.

WHARTON, GEORGE WILLARD

A manual of the chiggers, the biology classification, distribution and importance to man of the larvae of the family Trombiculidae (Acarina) Aided by H. S Fuller Washington Entomological Society 1952 185 p. illus. 26 cm. (Entomological Society of Washington. Memoirs. No 4) 723

Contents: Introduction. Public health. Behavior. Life cycles. Anatomy Classification. The distribution of Trombiculids. Appendix. Literature cited. Index.

Note: Although the chapter on classification is longer (66 pages) than any other this book is reference manual of the whole subject rather than systematic description of the Trombiculidae. The available knowledge on life cycles, physiology and ecology is summarized. Also the public health aspects are adequately outlined. The bibliography is comprehensive.

VERTEBRATES (EXCEPT BIRDS AND MAMMALS)

CARR ARCHIE

Handbook of turtles the turtles of the United States Canada, and Baja California. Ithaca, N Y Comstock Publishing Associates a division of Cornell University Press, 1952 542 p. illus. 24 cm. (Handbooks of American natural history Albert Hazen Wright, advisory editor) $7.50. 724

Contents: Part I, Introduction. Turtle functions and capacities Respiration. Circulation. Excretion. Digestion. Reproduction. Senses, behavior and intelligence. Size, growth, and age. Turtle adaptations. Turtles and man. Economic uses. Methods of collecting turtles. The inscrutable turtle. Terminology of turtle structures. Revised terminology. Parts of the bony shell. Epidermal laminae. The bones of the skull. Shell abnormalities and their meaning. Part II, Accounts of species. Key to the families. Suborder Thecophora. Family Chelydridae, the snapping turtles. Family Kinosternidae, the musk and mud turtles. Family Emydidae, fresh-water and marsh turtles. Family Testudinidae, the land tortoises. Family Cheloniidae, the sea turtles. Family Trionychidae, the soft-shelled turtles. Suborder Athecae, the leatherback marine turtles. Family Dermochelidae. Bibliography References for states and provinces. Index.

Note. An illustrated handbook describing 79 species and subspecies of turtles native to North America north of the Rio Grande. The major species are illustrated with photographic plates and distribution maps and are described under the following heads: range, distinguishing features, physical dimensions, habitat, habits, breeding, feeding, and economic importance. The bibliography extends to 69 pages and is followed by an index by states and provinces.

CONANT ROGER

The reptiles of Ohio. Second edition (with revisionary addenda) Notre Dame, Indiana University of Notre Dame Press 1951 284 p. illus. 24 cm. $3.50. 725

Contents (abridged) Introduction. Collections examined. Systematic list of the reptiles of Ohio. Doubtful records and possible additions. Use of scientific names. Physiography and geography of Ohio. Presentation of each species. Key to the reptiles of Ohio. Discussion of species. Glossary Bibliography First aid in case of snake bite. Suggestions for collecting. Instructions for preserving reptiles. Revisionary addenda. Supplementary references. Distribution maps. Index.

Note: (1444a) A systematic description of the species of snakes, lizards, turtles, and other reptiles found in the state of Ohio. It is used for reference by both amateur and professional zoologists. The major part of the present edition is unchanged from the first, published in 1938. However, considerable number of new descriptions have been added in the 45-page "Revisionary addenda. Also list of supplementary references and some new maps have been added.

SHIMADA, BELL M

An annotated bibliography on the biology of Pacific tunas. Washington D C. Government Printing Office, 1951. 58 p. 26 cm. (United States. Fish and Wildlife Service. Fishery bulletin 58. From Fishery bulletin of the Fish and Wildlife service volume 52) Paper $0.30 726

Contents: Introduction. Annotated bibliography Abbreviations used. Index by subjects.

Note: This bibliography covers chiefly the literature on the black skipjacks or little tunnies (*Euthynnus alletteratus, E. lineatus,* and *E. yaito*) the oceanic or common skipjack (*Katsuwonus pelamis*) the albacore (*Thunnus germo*), the bluefin or black tunas (*Thunnus maccoyii, T orientalis,* and *T. thynnus*) the big-eyed tunas (*Parathunnus mebachi* and *P sibi*) the yellowfin tunas (*Neothunnus macropterus*) and the frigate mackerels of the genus *Auxis* inhabiting the Pacific Ocean, including the waters contiguous to the Indo-Australian Archipelago. The bibliography is arranged alphabetically by author. Date, title, publication data, and brief annotation are indicated for each item. Japanese references are included.

SMITH HOBART MUIR, AND EDWARD H. TAYLOR

An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. Washington D C. Government Printing Office, 1950. 253 p. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 199) Paper $0 75 727

Contents: Introduction. Itinerary and gazetteer of localities for the Walter Rathbone Bacon expedition, 1938–1941. Class Reptilia: Subclass Anapsida: Order Testudinata. Subclass Lepidosauria: Order Squamata. Subclass Archosauria: Order Loricata. Species inquirendae. State lists. Index.

Note (807" 808") This volume constitutes the last of series of checklists and keys to the herpetological fauna of Mexico. The work involved number of expeditions to Mexico, beginning in 1932 and the handling of more than 90,000 herpetological specimens. The various subclasses, orders, suborders, families, genera, and species are listed and keyed in systematic order; for the species, names, bibliographical citations, types, type locality and range in Mexico are given

STEBBINS, ROBERT CYRIL

Amphibians of western North America. Berkeley Calif University of California Press, 1951 539 p illus. (part col'd) 24 cm. $7.50 728

Contents: Introduction. Class Amphibia. Salamanders: Order Urodela. Family Salamandridae. Family Ambystomidae. Family Plethodontidae. Frogs and toads Order Anura: Family Ascaphidae. Family Pelobatidae. Family Leptodactylidae. Family Bufonidae. Family Hylidae. Family Ranidae. Family Microhylidae. Eggs and larvae. Habitats Distribution maps. Glossary Bibliography Index.

Note A wide range of information on the external form, coloration, habits, and distribution of the species of salamanders, frogs, and toads inhabiting the eleven western states of the United States, Alaska, and the three western provinces of Canada is contained in this work. It is based on comprehensive coverage of the pertinent literature, unpublished data, and the author's personal observations. The species of salamander numbering 33, and the species of frogs and toads, numbering 29 are described in systematic order. The following information about species is generally given range, type locality description, habitat, behavior food, reproduction, and remarks. All species and some subspecies are shown in illustrations. To facilitate comparison the animals of each group are similarly posed in the drawings, the salamanders shown in dorsal and ventral views, the frogs and toads in three-quarter view Illustrations are also given of eggs, larvae, and typical habitats. A series of 44 sketch maps indicates locations of reported specimens of various species. The book is useful both to zoologists and to amateur naturalists who are interested in the fauna of the region covered.

WRIGHT, ALBERT HAZEN AND ANNA ALLEN WRIGHT

Handbook of frogs and toads of the United States and Canada. Third edition. Ithaca, N Y Comstock Publishing Company Inc., 1949 640 p. illus. 24 cm. (Handbooks of American natural history Albert Hazen Wright, advisory editor) $6.50 729

Contents. General account Common names. Present classification. Scientific name. Specific evaluation of our North American forms. Range. Habitat. Size. General appearance. Color. Structure. Voice. Vocal sacs. Color of throat. Enlarged tympana (males). Breeding sizes. Summary of secondary sexual characters. Ovulation. Eggs. Synopsis of eggs of United States frogs. Tadpoles. Synopsis of United States tadpoles. Development and transformation. Journal notes. Authorities' corner Keys: Families: Ascaphidae. Scaphiopodidae. Bufonidae. Hylidae. Leptodactylidae. Ranidae. Brevicipitidae. Accounts of species. Ribbed toads, Ascaphidae. Spadefoots, Scaphiopodidae. Toads, Bufonidae. Tree frogs, Hylidae. Robber frogs, Leptodactylidae. Frogs, Ranidae. Narrow-mouth toads, Brevicipitidae. Bibliography Index.

Note: (1499) From its second to its third edition this standard handbook has been increased in size from 286 pages to 640 pages. While the new edition is organized on the same general plan as its predecessors, both the introductory general account and the specific descriptions have been greatly expanded. Including the keys, the general account now occupies 103 pages, with additions both in text and illustrations. One hundred species and subspecies are now included and the descriptions run to 480 pages in contrast to 190 pages in the second edition. The number of plates was increased from 88 in the second edition to 126 in the third. In addition, the third edition includes 37 maps of distribution of species which were not present in earlier editions. The work is now complete manual of American frogs and toads. It is written so that it may be used by amateur naturalists and teachers, as well as by professional zoologists. The illustrations are exceptionally good.

VERTEBRATES BIRDS

ALLEN ELSA GUERDRUM

The history of American ornithology before Audubon. Philadelphia The American Philosophical Society 1951 387–591 p. illus. 30 cm. (Transactions, American Philosophical Society New series—vol. 41 part 3) Paper $2 00 730

Contents: Ancient bird lore. Aristotle's studies of birds and the Middle Ages Continental bird lore and the encyclopedists. Early bird lore in England. Early bird lore in the western world Early Colonial bird observation in America. The mid-seventeenth and early eighteenth centuries. Mark Catesby founder of American ornithology American ornithology under European compilers. Bird observation resumed in America. Early ornithological observation around Hudson Bay and other boreal regions. Bird lists of the latter eighteenth century Bartram, Abbot, and Vieillot. Alexander Wilson, father of American ornithology Bibliography Index.

Note: A scholarly work based largely on study of source materials in American universal libraries and museums. It is thoroughly documented. The 14-page bibliography includes citations of not only the pertinent literature on ornithology but also biographical and historical writings. The 13 illustrations include portraits of scientists and reproductions of ornithological drawings, manuscripts, etc. The author is Research Associate in Ornithology in Cornell University

BAKER, ROLLIN HAROLD

The avifauna of Micronesia, its origin evolution, and distribution. Lawrence, Kan. University of Kansas, 1951 359 p. illus. 23

cm. (University of Kansas publications Museum of Natural History Vol. 3 no 1) 731

Contents (abridged) Description of Micronesia. Gazetteer of the islands of Micronesia. Ornithological exploration in Micronesia. Check-list of the birds of Micronesia. Discussion of the avifauna: Oceanic birds. Migratory shore birds. Land and fresh-water birds. Conservation of the avifauna of Micronesia. The future of ornithological research in Micronesia. Methods and acknowledgments. Accounts of the kinds of birds in Micronesia. Summary and conclusions. Bibliography

Note A scientific report addressed to professional ornithologists on the birds found in the Mariana, Palau, Caroline, and Marshall Islands, including 204 kinds belonging to 91 genera in 37 families. The first 61 pages give general description of the islands and discussion of the avifauna with particular attention to its origin and its distribution. The following 240 pages describe the birds, species by species and family by family. The information on each species covers generally the scientific name, common name, bibliographical citations, geographic range, characters, measurements, weights, remarks. The bibliography at the end of the work runs to 16 pages. The illustrations consist of maps and tables rather than pictures.

BENT, ARTHUR CLEVELAND

Life histories of North American wagtails, shrikes, vireos and their allies. Order Passeriformes. Washington, D C. Government Printing Office, 1950 411 p illus. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 197) Paper $1.50 732

Contents. Introduction. Order Passeriformes: Family Prunellidae. Family Motacillidae. Family Bombycillidae. Family Ptilogonatidae. Family Laniidae. Family Sturnidae. Family Vireonidae. Literature cited. Index.

Note. The eighteenth in series of bulletins of the U. S. National Museum on the life histories of North American birds. A life history is given for each species, including habits, range, courtship, nesting, eggs, young, plumages, food, behavior voice, field marks, enemies. The manuscript was completed in 1943 and only material of great importance was added at later date. The bibliography covers 18 pages, and 72 photographic illustrations are reproduced on the 48 plates.

DAVIS JOHN

Distribution and variation of the brown towhees. Berkeley University of California Press 1951 119 p illus. 26 cm. (University of California publications in zoölogy editors A. H. Miller and others. Vol. 52 no 1) Paper $1.25 733

Contents (abridged) Introduction Molts and plumages. Nongeographic variation. Methods. Survey of the brown towhees. Degree of variability Environmental correlation. Species limits. The historical background Phylogeny Summary and conclusions. Nomenclature of recognizable forms. Literature cited.

Note. A professional study of bird group which because of its division into morphologically differentiated groups and its geographical distribution offers particular advantages for study of the subject. The work is primarily study of variation and secondarily taxonomic description It was based on study of 3277 specimens. Much information is included on geographic distribution as well as on body measurements and racial characters.

EISENMANN, EUGENE

Annotated list of birds of Barro Colorado Island, Panama Canal Zone. Washington D C The Smithsonian Institution 1952 62 p. 25 cm. (Smithsonian miscellaneous collections. Vol. 117 number 5 Publication 4058) Paper $0 45 734

Contents: Introduction. Location and administration. Ecological conditions. Ornithological work relating to Barro Colorado Island. The annotated list Order Tinamiformes. Order Colymbiformes. Order Pelecaniformes. Order Ciconiiformes. Order Falconiformes. Order Galliformes. Order Gruiformes. Order Charadriiformes. Order Columbiformes. Order Psittaciformes. Order Cuculiformes. Order Strigiformes. Order Caprimulgiformes. Order Apodiformes. Order Trogoniformes. Order Coraciiformes. Order Piciformes. Order Passeriformes. References.

Note: A systematic listing with brief annotations of the 306 species of birds found on Barro Colorado Island in Gatun Lake in the Panama Canal, administered by the Smithsonian Institution since 1946 as the Canal Zone Biological Area. The birds listed are grouped by families under 16 orders; for each species are given scientific name, English name, and annotation, the annotation varying in content from line or two about status when seen on the island to longer paragraph containing comments on locations and dates observed, notes, breeding habits, and names of observers. The work is published as the record of the ornithological population of humid tropical forest island.

FRIEDMANN HERBERT

The birds of North and Middle America a descriptive catalog of the higher groups, genera, species and subspecies of birds known to occur in North America, from the Arctic lands to the Isthmus of Panama, the West Indies and other islands of the Caribbean Sea, and the Galápagos Archipelago. Part XI Family Cathartidae—the American vultures Family Accipitridae—the hawks, eagles kites, harriers and Old World vultures. Family Pandionidae—the ospreys. Family Falconidae—the falcons and caracaras Washington D C. Government Printing Office, 1950 793 p illus. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 50 Part II) Paper, $4.00. 735

Contents: Order Falconiformes diurnal birds of prey: Key to the suborders of Falconiformes. Suborder Cathartae: American vultures: Family Cathartidae, American vultures Suborder Falcones: true birds of prey: Key to the families of Falcones. Family Accipitridae, hawks, eagles, kites, harriers, and Old World vultures. Family Pandionidae, ospreys. Family Falconidae, true falcons, laughing falcons, pygmy falcons, forest falcons, and caracaras. Index.

Note: (631) This is the eleventh part of series of bulletins describing the birds of Middle and North America, of which the first was published in 1901. The first eight parts were the work of the late Robert Ridgway. The ninth and tenth parts were written by Herbert Friedmann largely from manuscript notes left by Ridgway. In this eleventh part the author again has made extensive use of Ridgway's notes, but he has deleted some accounts of genera no longer considered valid and has brought the whole account into line with current taxonomic opinion. Like the other parts, this eleventh part contains keys to the different suborders, families, genera, species, and subspecies which it includes and for each species in systematic order gives description of adults and young, including color and size, followed by notation of range and complete synonymy from the literature.

GRISCOM, LUDLOW

The birds of Concord. Cambridge Harvard University Press 1949 340 p. illus. 21 cm. (New England bird studies. II) $5 00 736

Contents (abridged) Introduction Description of the area Methods of treatment. Part I, Population trends: Basic factors, geology climate, vegetation, civilization and its disturbances. Birds as citizens. General summary; some fluctuations in animals, fluctuations in birds. Population declines and increases bird population densities, cycles and periodicity general principles of population trends. Lists of birds which have increased or declined. Part II, Birds of the Concord region General features; migration routes, seasonal bird life, statistical summary Systematic list. Bibliography Index.

Note. Records relating to the bird population of the Concord region of Massachusetts have been kept by naturalists and ornithologists since the middle of the nineteenth century These data, together with information compiled by the author over period of 13 years, form the basis for this elaborate investigation of avifauna in specific and limited area. Half the book consists of tabulation of the birds seen in the Concord area, with an indication of the increase

or decrease in each species during the past century The other half discusses the factors causing the fluctuations in bird population. The work is a study of potential interest to amateur and professional ornithologists and ecologists.

HEADSTROM RICHARD

Birds' nests, a field guide. An identification manual to the nests of birds of the United States east of the one hundredth meridian. New York Ives Washburn, Inc., 1949 128 p. illus. 19 cm. $2 75 737

Contents: Index of birds. Introduction. How to use this book. Nests on or in the ground: In fields or pastures. In woods. In marshes. On or near seashore and lake beaches. In burrows in the ground. On rocks or rock ledges. Nests above the ground Hanging or semihanging. Covered on outside with lichens and saddled on branch. Felted nests of cottony materials. Containing a layer of mud. Made chiefly of bark, fibers, twigs, and rootlets. Made chiefly of grasses, rootlets, leaves, and straw Containing twigs or sticks. In holes in trees or stumps, in birdhouses or similar places. In or on buildings.

——— Birds nests of the West, a field guide. An identification manual to the nests of birds of the United States west of the one hundredth meridian. New York Ives Washburn Inc., 1951 177 p. illus. 19 cm. $3.00. 738

Contents: Nests on or in the ground: In fields, pastures, or prairies. In woods and wooded hillsides. In marshes, bogs, wet meadows, and swamps. On or near seashore and lake beaches. In burrows in the ground. On rocks or rocky ledges. In caves. In deserts. On alpine summits. Nests above the ground. Hanging or semihanging. Covered on outside with lichens and saddled on branch. Felted nests of cottony materials. Containing a layer of mud. Made chiefly of bark, fibers, twigs, and rootlets. Made chiefly of grasses, mosses, rootlets, leaves, and straw Containing twigs or sticks. In holes in trees or stumps, in birdhouses or similar places. In or on buildings. Index.

Note: The purpose of these manuals is indicated in the subtitles. The nest descriptions include statements on the materials of which the nest is usually made and of the range of the bird in the United States. Each volume contains an insert of reproductions of excellent photographs of birds' nests in their natural sites.

PETTINGILL OLIN SEWALL JR.

A guide to bird finding east of the Mississippi. With illustrations by George Miksch Sutton New York Oxford University Press, 1951 659 p illus. 19 cm. $6.00 739

Note: An unusual addition to ornithological literature. It is a guide to opportunities for observing birds, or more specifically a guide to localities known to be frequented by particular species. The main arrangement is by state with the material under states arranged by locality Under each locality there is an interesting narrative description of the birds that can usually be observed. The index contains both the names of places and the names of birds. The work was based largely on an extensive correspondence with amateur and professional ornithologists throughout the United States.

POUGH RICHARD HOOPER

Audubon water bird guide water game and large land birds. Eastern and central North America from southern Texas to central Greenland. Color illustrations by Don Eckelberry line drawings by Earl L. Poole. Sponsored by National Audubon Society Garden City N Y Doubleday & Company Inc., 1951 352 p. 19 cm. $3 50 740

Note A field guide of interest to both amateur and professional ornithologists The number of species described is [illegible]. The descriptions cover such points as identifying characteristics, habits, song or cry, nest, and range. There are [illegible] excellent color illustrations printed on 48 plates and more than 100 drawings rendered in black and white. The author is a member of the staff of the American Museum of Natural History

RICHDALE LANCELOT ERIC

Sexual behavior in penguins. Lawrence Kansas University of Kansas Press 1951 316 p. illus. 24 cm. $5 00. 741

Contents: Scope of the study An analysis of types of behavior Pair formation. Sex differences, measurements, and weights. Sexual behavior in winter The pre-egg stage. Unemployed birds. Incubation. Chick stage. The moult Appendices. Literature cited. Index of subjects. Index of species. Index of bands.

Note. An unusual work based primarily upon "ten seasons of intensive field work." The birds studied were banded by the author so as to make possible a continuous study of the behavior of individuals over the period of study. The observations made are presented in detail with individual birds identified. Although the primary source is the author's own observations, pertinent information in the published literature also is presented. The book is of interest to amateur and professional ornithologists and to specialists in animal psychology

ROMANOFF ALEXIS LAWRENCE AND ANASTASIA J ROMANOFF

The avian egg. New York John Wiley & Sons Inc., 1949 918 p. illus. 24 cm. $16 00. 742

Contents: Part I, Morphogenetic expression: Mode of laying. External characteristics. Structure Formation. Anomalies. Part II, Biophysicochemical constitution: Chemical composition. Physicochemical properties. Biological properties. Part III, Bio-economic importance Food value. Preservation Industrial uses. Bibliography Index.

Note An encyclopedic presentation of the accumulated knowledge of the bird egg in general and the chicken egg in particular. It does not deal with the egg as an element in reproduction, but rather with the biological process of egg production, the physical and chemical properties of eggs, and the food and industrial uses of eggs. Although essentially a reference book, the work is easy to read and contains much information of interest to the non-scientific reader as well as to the scientist. The authors claim to have reviewed more than 15,000 publications in the course of the book's preparation. Those from which information was abstracted are cited in the text and in the bibliography here references are given to approximately 3,000 books, patents, and articles. There are 424 figures.

SAUNDERS ARETAS ANDREWS

A guide to bird songs descriptions and diagrams of the songs and singing habits of land birds and selected species of shore birds Revised edition Garden City New York Doubleday and Company Inc. 1951 307 p. illus. 19 cm. $3 00 743

Contents How to identify bird songs. Key to bird songs. Descriptions of bird songs. New material. Index.

Note. A field manual designed to aid in the identification of birds by means of their songs. The songs are diagrammed, not in conventional musical notation, but in what the author designates as musical shorthand They are also rendered in combinations of consonants and vowels, for example: "coilee coilee coilee" for the gathering call of the bob white. The first edition was published in 1935. In this edition descriptions are given of many songs that were not represented in the first edition. The added material runs to about fifty pages.

SUTTON GEORGE MIKSCH

Mexican birds. First impressions based upon an ornithological expedition to Tamaulipas, Nuevo León, and Coahuila. With an appendix briefly describing all Mexican birds. Illustrated with water-color and pen-and-ink drawings by the author Norman, Okla. University of Oklahoma Press 1951 282 p. illus. (part col'd) 25 cm. $10 00. 744

Note: The main part of this book consists of 12 autobiographical chapters of impressions of Mexican birds written by an ornithologist on his first trip to Mexico. The chapters are presented as connected story with dates and places named and species identified. The concluding third of the book describes 68 families of birds found in Mexico, with notes on each of the principal species. The illustrations include water-color drawings of 16 species in color and pen-and-ink drawings of 60 more species. The volume is not intended as handbook of Mexican birds; it rather serves as an informal introduction to the subject for bird students visiting Mexico for the first time.

WALKINSHAW, LAWRENCE H.

The sandhill cranes. Bloomfield Hills, Mich. Cranbrook Institute of Science 1949 202 p illus. 24 cm. (Cranbrook Institute of Science. Bulletin no 29) $3.50 745

Contents: Introduction. Molts and plumages. Voice. Crane behavior. Food and feeding habits. Pairing and territory. Nesting. The young. The crane from fall to spring. History of North American crane populations. Literature cited. Appendixes: Key to the cranes of the world. Sandhill crane distribution records (with bibliography) Index.

Note: In this book an amateur ornithologist of exceptional devotion has recorded the results of observations covering fifteen years and 70,000 miles of travel in North America and Cuba. The life cycle and habits of the sandhill crane (*Grus canadensis*) were minutely observed. The author's own observations were then supplemented by reports in the published literature to produce an exceptionally detailed study of species that is gradually disappearing. There are 33 photographs—most of which show birds in their natural habitat, 31 tables of data, and an extensive bibliography

WETMORE, ALEXANDER

A revised classification for the birds of the world. Washington, D C. The Smithsonian Institution, 1951 22 p 24 cm. (Smithsonian miscellaneous collections. Vol. 117 number 4 Publication 4057) Paper $0 15 746

Note: (1648) A work which is primarily of interest to professional ornithologists. The first half of this new revision is devoted to discussion of the newer knowledge which has made advisable certain changes in and additions to the various groupings of families, superfamilies, suborders, and orders of the class Aves. The second half presents the new classification in systematic arrangement, including English names alongside the scientific names. The list includes fossil groups as well as living groups of birds. The new edition reflects particularly the results of increased knowledge of the birds of Australia and New Zealand on the one hand and of fossil forms on the other.

ZAHL, PAUL ARTHUR

Flamingo hunt. Illustrated by Fritz Kredel. Indianapolis Ind. The Bobbs-Merrill Company Inc., 1952 270 p illus. 21 cm. $3 50 747

Contents. First adventure. Second adventure. Third adventure.

Note. The account of an ornithologist's adventures in attempting to solve the mysteries of the flamingo colonies of Andros Island of the Bahamas, about which almost no published information has been available. A first hand narrative of interest not only to scientists but to laymen as well.

VERTEBRATES MAMMALS (EXCEPT MAN)

BAILEY PERCIVAL AND OTHERS

The isocortex of the chimpanzee. By Percival Bailey Gerhardt von Bonin and Warren S McCulloch. Urbana The University of Illinois Press, 1950 440 p. illus (part col d) 28 cm. $8.50 748

Contents: Introduction. Materials and methods. General considerations. Fissural pattern. Cytoarchitecture. Survey by serial sections. The brain map. Physiological neuronography. Motor responses to electrical stimulation. Suppression. Relations with deeper structures. Interrelations of cortical areas. Correlation with Macaca mulatta. Epilogue. Bibliography. Plates.

Note: A monographic report of techniques and results of an extensive series of experiments carried on in the Laboratory of Neurophysiology at Yale University and continued in the laboratory of the Illinois Neuropsychiatric Institute at the University of Illinois. Mapping of the main functional areas in the isocortex of the chimpanzee was the chief object of the experiments. Although the experiments were not carried to their conclusion, the results reported are of substantial interest to other researchers in neuroanatomy

FARRIS, EDMOND JOHN, AND JOHN Q GRIFFITH JR. editors

The rat in laboratory investigation, by a staff of twenty nine contributors. 179 illustrations. Second edition Philadelphia J B Lippincott Company, 1949 542 p illus. (part col d) 23 cm. $15 00 749

Contents: Breeding of the rat, by Edmond J. Farris. General methods, by John Q. Griffith, Jr assisted by W A. Jeffers. Gross anatomy by E. C. Greene. Experimental methods and rat embryos, by J. S. Nicholas. Dietary requirements of the rat, by R. H. McCoy. The teeth, by I. Schour and M. Massler. The digestive system, by T E. Machella and J. Q. Griffith, Jr. Metabolism, by C. J. Carr and J C. Krantz, Jr. The central nervous system, by W A. Jeffers and J. Q Griffith, Jr assisted by E. Roberts. Technics for the investigation of behavioral phenomena in the rat, by O. L. Kramer. The circulatory system, by J. Q. Griffith, Jr., and W A. Jeffers, assisted by E. Roberts. The use of the rat in the biologic assay of hormones, by D. J. Ingle. Dosage of drugs for rats, by H. O. O. Balch, assisted by D. R. Mathieson. Hematology of the rat—methods and standards, by A. J. Cravkoff and others. Radiologic considerations, by E. P Pendergrass and others. Surgery of the rat, by D. J. Ingle and others. Histologic methods adapted for rat tissues, by W H. F Addison. The nervous system, by R. M. Strong. The eye of the albino rat, by W E. Fry. Protozoan parasites of the rat, by D. H. Wenrich. Metazoan parasites of the rat, by H. L. Ratcliffe. Spontaneous diseases of laboratory rats, by H. L. Ratcliffe. Bibliography. Index.

Note: (1705) A comprehensive handbook and guide for those who use the albino rat for laboratory research purposes. Most of the information presented is based upon experience in maintaining rat colonies over quarter of century at the Wistar Institute of Anatomy and Biology Philadelphia. In preparing the new edition the authors reviewed the entire text in the light of current knowledge and techniques and made the necessary revisions and additions. The appearance of many new reports involving the action and dosage of drugs for rats necessitated the complete rewriting and considerable expansion (from 14 to 103 pages) of the chapter on pharmacology. New material has also been incorporated in the chapters on the digestive system and the nervous system.

GOLDMAN EDWARD ALPHONSO

Raccoons of North and Middle America. With foreword, appendix, and revision of bibliography by Hartley H. T Jackson Washington D C. Government Printing Office, 1950 153 p. illus. 23 cm. (United States. Department of the Interior Fish and Wildlife Service. North American fauna 60) Paper $0 45 750

Contents: Introduction. History. Habits: Food and general activities. Senses and instincts. Breeding. Hibernation. Economic status. General characters: Pelage and molt. Variation. Geographic variation. Individual variation. Explanations: Measurements. Coloration. Specimens examined. Use of key to species and subspecies. Genus *Procyon* Storr. Key to subgenera. List of North American species and subspecies, with type localities. Subgenus *Procyon* Storr: Key to species and subspecies of the subgenus *Procyon*. Subgenus *Euprocyon* Gray. Appendix. Bibliography. Index.

Note. A systematic description of the species and subspecies of the raccoons of North America, including Panama and the West Indies. Following the general and introductory material, the species are taken up one by one and information is furnished on names, original bibliographical citation, type locality type, distribution, general characters, color cranial characters, measurements, remarks, and specimens examined. Twenty plates show photographs of skulls of typical specimens. The manuscript was completed for publication in 1941; additions have been made in the appendix to

cover two new subspecies and in the bibliography to include papers published from 1941 to 1949

GREGORY WILLIAM KING, editor

The Henry Cushier Raven memorial volume. The anatomy of the gorilla. The studies of Henry Cushier Raven and contributions by William B Atkinson Herbert Elftman John Eric Hill, Adolph H. Schultz, William L. Straus, jr and S. L. Washburn Arranged and edited by William King Gregory A collaborative work of the American Museum of Natural History and Columbia University New York Columbia University Press, 1950 259 p. illus. 32 cm. $15.00 751

Contents (abridged) Part I, Henry Cushier Raven (1889–1944) by W K. Gregory Scientific papers of Henry Cushier Raven. Part II, Regional anatomy of the gorilla, by H. C. Raven, with additions by J. E. Hill. Part III, Thoracic viscera of the gorilla, by S. L. Washburn. The abdominal viscera of the gorilla, by H. Elftman and W B. Atkinson. Female reproductive system of the gorilla, by W B. Atkinson and H. Elftman. Part IV The microscopic anatomy of the skin of the gorilla, by W L. Straus, jr. Part Morphological observations on gorillas, by A. H. Schultz. Index.

Note: Considerably more than half of the space in this volume is devoted to reproductions of original drawings, made under Henry Cushier Raven's direction, of his own dissections of the gorilla. The drawings are remarkably clear and are reproduced in large size. The chapters and parts of the work supplied by other contributors supplement Raven work, which was left unfinished at his death, and are in themselves notable contributions based largely on original studies. The work is major contribution that greatly extends the knowledge of the anatomy of the gorilla.

HALL EUGENE RAYMOND

American weasels. Lawrence, Kan. University of Kansas, 1951 466 p illus. (part col d) 23 cm. (University of Kansas publications. Museum of Natural History Vol. 4) 752

Contents: Introduction. Paleontological history Skeleton and dentition. Disparity in number of males and females. Materials, acknowledgements and methods. Variation: Variation with age. Secondary sexual variation. Individual variation. Seasonal variation. Variation in color and molt. Variation of taxonomic worth. Distribution and speciation. History of classification: Chronological list (annotated) of specific and subspecific names. Check list of American species and subspecies of the genus Mustela. Artificial key to American species of the genus Mustela. Diagnosis of the genus. Explanation of systematic treatment. Systematic accounts of species and subspecies Mustela erminea Mustela rixosa. Mustela frenata. Mustela africana. Explanation of cranial measurements. Table of cranial measurements. Literature cited. Plates. Index.

Note: A general and systematic treatise on the weasels of North America, with some coverage of those of South America. The first 80 pages include the general description of the weasels and their variation and distribution The next 325 pages contain the systematic accounts of the species (including type, range, characters for ready recognition, character of the species, geographic variation, behavior enemies, food, reproduction) and of the subspecies (type, range, characters for ready recognition, size, color, skull, sex differences, remarks, specimens examined) The remainder of the book includes the tables of cranial measurements of specimens and the 39 plates each containing photographic views of 9 or 10 skulls. The work is based upon more than 25 years of study of the weasel and visits to 184 zoological collections in the United States, Canada, and Europe.

HARTMAN CARL GOTTFRIED

Possums. Austin Tex. University of Texas Press, 1952 174 p illus. 29 cm. $6 00 753

Contents: Introduction. Europeans meet the opossum. The counter down under. The pe and the ups of creativity The opossum gets name. What manner of beast is this? The opossum at home. And thereby hangs possum. Chucken thief Playing possum Opossum embryology in pictures Birth of the opossum. Journey to the pouch fancy Journey to the pouch: fact. Birth of the kangaroo. The brood pouch in nature. The pouch young. Opossum and bear. A butterfly painter starts legend. Four centuries of opossum pictures. Possum hunting. Possum capers and red garters. Possum and taters. Appendix: Possum rhymes and folklore. Bibliography Index.

Note: A large volume rich talk, in text and pictures, the lore and science of the opossum (*Didelphis virginiana* Kerr) The author has made study of the subject for over 40 years and has written this book largely on the basis of his observations and experiments. The scientific information combined with the author's humorous style makes the book interesting reading both for zoologists and for nature-lovers in general. The chapters on the development of the embryo and birth of the young and migration to the pouch are noteworthy

HAYES, CATHY

The ape in our house. New York Harper & Brothers, 1951 247 p. illus. 22 cm. $3.50 754

Contents (abridged) Part 1 The first eighteen months: W adopt baby Vegetate phase. Grandma visits the creature. Under spreading pecan tree. Guess what Viki did today! Teaching an ape to talk. Enter the stick. Viki's second Christmas. The very strange case of the imaginary pulltoy. Viki and the child. Part 2, The second eighteen months: Viki and the caged ape. Apes is apes and cats is cats. The lapse. A cup of good cheer. W don't need talking apes. Part 3, In answer to your questions— Capsuation. Pithecomorphism and publican milkshakes. What funny place for toe! Actions and words. The nature of the beast. It's only the beginning. Author's note—books you might enjoy

Note: An account of the first three years in the development and growth of Viki, female chimpanzee adopted at birth by young scientist and his wife and raised in their home in Orange Park, Florida, in much the same manner as human baby would be raised in similar environment. The results are of interest to the lay reader as well as to the zoologist and psychologist.

LINSDALE JEAN MYRON, AND LLOYD P TEVIS JR.

The dusky footed wood rat a record of observations made on the Hastings Natural History Reservation. Berkeley Calif University of California Press, 1951 664 p. illus. 24 cm. $7.50 755

Contents: Introduction. Habitat. Houses. Animal associates. Behavior. Food. Reproduction. Morphology Population. Conclusions. Literature cited. Index.

Note. A detailed scientific study of *Neotoma fuscipes*, the dusky-footed wood rat, cinnamon-colored nocturnal pack rat native to parts of Oregon, California, and Baja California. It is based upon original observations made at the Frances Simes Hastings Natural History Reservation in the northern Santa Lucia Mountains of Monterey county California, over ten-year period. The photographic illustrations depict the rat and his habitat. Other illustrations include tables and graphs presenting statistics of individual specimens studied.

SIMPSON GEORGE GAYLORD

Horses the story of the horse family in the modern world and through sixty million years of history New York Oxford University Press 1951 247 p. illus. 23 cm. $6.50 756

Contents (abridged) Introduction. Part one, Living horses: What is horse? A look at Equus. Horses and history Ancient breeds. Some European breeds in America. American breeds and their forerunners. Part two, The lineage of the horse: Time-scale of horse history Forerunners of the horses. The little Kohippus. Other Eocene horses. Early three-toed horses. Later three-toed horses. The horse's relatives. False horses. Part three, Horses and evolution. How horses changed. Patterns of evolution. Explanations of evolution. Appendixes: Where to see fossil horses. Where to read more about horses. Index.

Note: In this book for lay readers the main emphasis is on the evolution of the horse, but information on many other topics is also included. Examples of the supplementary topics are discussion of the inheritance of color and description of the work of Edward Muybridge in photographing the gaits of horses. There are about 80 illustrations reproduced on 32 plates, directory of museum collections of fossil horses, and selected, annotated bibliography Though popular treatment, the book merits reading by anyone with mature interests in the subject. The author is Chairman of the Department of Geology and Paleontology of the American Museum of Natural History

COMPARATIVE ANATOMY AND EMBRYOLOGY

ADAMS, LEVERETT ALLEN, AND SAMUEL EDDY

Comparative anatomy, an introduction to the vertebrates. New York John Wiley & Sons Inc., 1949 520 p. illus. 24 cm. $5.50 757

Contents (abridged) Part one, A review of the vertebrates: Classification. Superclass Pisces or fish-like vertebrates. Superclass Tetrapoda. Embryology Part two, Comparative anatomy of the vertebrates: Integumental system. Axial skeleton. Appendicular skeleton. Muscular system. Circulatory system. Respiratory system. Urogenital system. Nervous system. Sense organs. Endocrine glands. Bibliography Glossary Index.

Note. (1448) A successor to Adams' *Introduction to the vertebrates*, second edition. It is designed for use in college courses and four-fifths of the space is devoted to the comparative anatomy of various organ systems. Some chapters have been shortened but others have been considerably expanded, hence the number of pages has been increased by about forty There are now 364 figures.

BARTH LESTER GEORGE

Embryology New York The Dryden Press 1949 330 p. illus. 24 cm. $5.50 758

Contents: Embryology—problems and scope. Ovulation—its control by hormones and light. The unfertilized egg and its organization for development. Fertilization—the nature of the stimulus for development. The early gastrula with its presumptive values. Gastrulation in relation to the organizer The neurula and the property of self-differentiation. The embryo—differentiation within fields. Development of the frog egg. Interrelationships of developing structures. The nervous system. The circulatory system. The digestive tract. The somites, nephrotome, and lateral mesoderm. The development of the chick embryo. Regeneration. Growth and reduplication. Hormones and the growth of the mammalian embryo. Mammalian development. Sex differentiation. Suggested readings. Index.

Note: In this introduction for use in college courses the customary description of successive stages in the development of embryos is not emphasized. Instead the processes of differentiation are described more generally and functional view rather than detailed catalogue is presented. Another difference from older texts is the incorporation of good deal of experimental zoology For instance, there are many such statements as "more direct evidence comes from experiments in which parts of the primitive streak embryo are cultured on the chorioallantoic membrane Human embryology is outlined in twenty-one pages. There are 184 figures. The selected bibliography is partly annotated.

HUETTNER, ALFRED FRANCIS

Fundamentals of comparative embryology of the vertebrates. Revised edition. New York The Macmillan Company 1949 309 p illus. 26 cm. $5 50 759

Contents (abridged) History and theories of development. Protoplasm and the cell. Development of sex. Chromosomes in development. Gametes, fertilization and parthenogenesis. The embryology of amphioxus. The embryology of the frog. The embryology of the chick. The embryology of the mammal. Index.

Note (1750) An introductory textbook for college courses. It offers descriptive rather than functional exposition. Seven chapters are devoted to the embryology of the chick, apparently because this animal is so easily studied in the laboratory Four chapters on mammalian embryology lead up to detailed description of human development. The illustrations are exceptionally clear and are reproduced in large scale. In this edition chapter has been added on the embryology of the pig, and there are other changes.

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES

Genetic neurology problems of the development, growth, and regeneration of the nervous system and of its functions Conference sponsored by the International Union of Biological Sciences subsidized by UNESCO Paul Weiss, editor Chicago The University of Chicago Press 1950 239 p illus 24 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $5.00. 760

Contents: An introduction to genetic neurology by P Weiss. The colloidal organization of the nerve fiber, by F O. Schmitt. Motion pictures of neurons and neuroglia in tissue culture, by W H. Lewis. Adjustments of peripheral nerve fibers, by C. C. Speidel. Nerve regeneration, by J. Boeke. The determination of the characteristics of nerve fibers, by J Z. Young. Regeneration phenomena in human peripheral nerves, by S. Sunderland. Some aspects of neuroembryology by V Hamburger and R. Levi-Montalcini. Studies on the development of Mauthner's cell, by A. Stefanelli. Differentiation and growth of nerve fibers, by J. Piatt. Neuropathology and the constitutional diversity of neurons, by D. Bodian. Spectroscopic studies on nerve cells in development, growth, and function, by H. Hydén. The cytological, biochemical, and physiological differentiation of the neuroblast, by L. B. Flexner. Some aspects of neural growth, regeneration, and function, by R. W Gerard. Spinal cord regeneration, by D. Hooker. Some comments on regeneration in the central nervous system, by A. Stefanelli. Neural growth and the development of behavior by D Hooker. Reflexes of mammalian embryos and fetuses, by W F Windle. Genetic neurology and the behavior problem, by D. H. Barron Neuronal specificity by R. W Sperry

Note: Customarily volume based upon conference consists of papers which were written in advance and delivered at the conference. In contrast this volume consists of papers written after the conference by scientists he attended it and exchanged views with one another. The subject is the embryology and development of the nervous system, not its "genetics" in the sense of biological inheritance. Most of the papers are condensed summaries of particular aspect of the problem and are accompanied by literature lists. Some of them, however, are very brief statements of the state of affairs in some special area and lack bibliographies. The style is technical and the book is of interest to advanced students and professional workers in such fields as embryology histology and neurology

LILLIE, FRANK RATTRAY

Lillie's Development of the chick an introduction to embryology Revised by Howard L. Hamilton. Advisory editor B H. Willier Third edition. New York Henry Holt and Company 1952 624 p illus. 22 cm. $7.50. 761

Contents (abridged) Introduction. Part I, The early development to the end of the third day: The egg. The development prior to laying. Outline of development, orientation, chronology From laying to the formation of the first somite. *Head fold to twelve somites.* From twelve to thirty-six somites. Part II, The fourth day to hatching—organogeny development of the organs: The external form of the embryo and the embryonic membranes. The nervous system. Organs of special sense. The alimentary tract and its appendages. The body cavities, mesenteries, and septum transversum. The later development of the vascular system. The urogenital system. The skeleton. Appendix. Index.

Note. An introductory but exceptionally detailed description of embryological development. Its original purpose (and still the primary one) was to serve as textbook for college students taking first courses in embryology Gradually (the first edition appeared in 1908) it has taken on the stature of classic. In the present extensively revised edition much material has been added including some information not published elsewhere. The chapter on the development of the integument has been added and several other chapters have been thoroughly rewritten. There are now 283 figures, 14 plates and 32-page bibliography

McEWEN ROBERT STANLEY

Vertebrate embryology Third edition. New York Henry Holt and Company 1949 699 p illus. 22 cm. $5 75 762

Contents (abridged) Part I, The germ cells and early development of amphibians. Part II, The development of the frog. Part III, The Teleosts and Gymnophiona. Part IV The development of the chick The adult reproductive organs, and the development of the egg previous to gastrulation. Gastrulation and development through the first day of incubation. Development during the second day of incubation. Development during the third day of incubation. Development during the fourth day of incubation. Development during the fifth and subsequent days. Part The development of the mammals

The early development of the notochord and its embryonic appendages. Development of the pig to the ten millimeter stage. The later development of the pig. The skeleton, teeth, hair, hoofs and horns. Index.

Note: (1764) A standard textbook for introductory college courses in vertebrate embryology. The third edition is changed from the second edition (1931) in the following respects: the subject matter and the bibliographies have been brought up to date; certain passages have been clarified and simplified; the sections dealing with the Amphibia and the chick have been revised to incorporate experimental material along with descriptive facts; the embryology of the pig has been added; and the general discussion of the cell has been shortened.

QUIRING DANIEL PAUL

Functional anatomy of the vertebrates. New York McGraw Hill Book Company, Inc. 1950 624 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences, E. J Boell, consulting editor) $6.00 763

Contents: Form and structure. Classification. The integument. The skeleton. The musculature. The nervous system. The sense organs. The digestive system. The respiratory system. The circulatory system. The excretory and reproductive systems. The endocrine glands. Anthropology Functional anatomy Appendix. Glossary Index.

Note: A compact introductory presentation in which—as the title indicates—the main emphasis is on function. In most chapters considerably more space is given to the anatomy of man and the complex animals than to simpler forms. The high proportion of reference data is unusual in an introductory text. Included is a long table titled "Body and organ weights of 3,581 vertebrates" that gives comparative weights of organs for many animals and was apparently based on field studies made by George W Crile and Grace McBride Crile. The author is Head of the Anatomy Department of the Cleveland Clinic Foundation.

ROMER, ALFRED SHERWOOD

The vertebrate body Philadelphia W B Saunders Company, 1949 643 p. illus. 24 cm. $6.00 764

Contents: Introduction. The vertebrate pedigree. Who's who among the vertebrates. Cells. The early development of vertebrates. The skin. The skeleton. The skull. Muscular system. Mouth, pharynx, respiratory organs. Digestive system. Excretory and reproductive systems. Circulatory system. Body cavities. Sense organs. The nervous system. *Appendices: A synoptic classification of vertebrates. Scientific terminology* References. Index.

Note: A textbook for use in introductory courses in comparative anatomy offered to premedical and other students with more than cultural interests in the subject. The presentation is truly comparative without special emphasis on man. There are 343 figures, sixteen-page glossary and a selected annotated bibliography

TAYLOR, WILLIAM T AND RICHARD J WEBER

Functional mammalian anatomy (with special reference to the cat) Illustrated by Thomas Courtney Lee. New York D Van Nostrand Company Inc., 1951 575 p. illus. 24 cm. $7.25 765

Contents: Introduction. The mammalian integument. The skeletal system. The muscular system. The nervous system. Special sense organs. Blood circulatory system. The lymphatic system. The respiratory system. The digestive system. The urinary system. The reproductive system. The endocrine system. Manual for the regional dissection of the cat. Appendix. Index.

Note: In this introductory text the anatomical descriptions include some description of function. For instance, in the chapter on the blood circulatory system in addition to the expected anatomical matter there is material on such points as the nervous regulation of the heart rate. The purpose of this dynamic or functional approach is to encourage the student to correlate form and function and thus avoid thinking of anatomy as a mere catalogue of body parts. The book is both a classroom text and laboratory manual. It includes, as noted in the table of contents, a manual for dissection. Another unusual feature is a detailed treatment of the nervous system. The authors are members of the faculty of Georgetown University.

WALTER, HERBERT EUGENE, AND LEONARD P SAYLES

Biology of the vertebrates, a comparative study of man and his animal allies. Third edition. New York The Macmillan Company, 1949 875 p illus. 24 cm. $6.50 766

Contents: Part one, The background: Chordate characters. Kinds of vertebrates (classification) The distribution of animals in space (chorology and ecology) The distribution of animals in time (paleontology) Man in the making (anthropology) Units of structure (cytology). Division of labor in tissues (histology) The development of the individual (embryology) Biological discords (pathology). Part two, The mechanism of metabolism and reproduction: A jack of all trades (the integument) Intake apparatus (digestive system) Internal transportation (circulatory system) The release of energy (respiratory system). Outgo apparatus (excretory system) The preservation of species (reproductive system) Involuntary regulation (glands of internal secretion). Part three, The mechanism of motion and locomotion The skeleton. Production of motion and locomotion (muscles) The dominating factor (nervous system) Ports of entry (sense organs) Bibliography Index.

Note: (1433) *A standard introduction to comparative anatomy* and physiology It is characterized by a clear sometimes humorous style and by apt comparisons. In this edition, prepared by Professor Sayles, five chapters have been rewritten and minor changes made in other chapters. A considerable number of the illustrations are new or have been redrawn.

WEICHERT CHARLES KIPP

Anatomy of the chordates. New York Mc Graw Hill Book Company, Inc., 1951 921 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences E. J Boell, consulting editor) $8 00 767

Contents: Part I, Review of phylum Chordata: Introduction. Classification and natural history. Development of the individual. Part II, Organ systems of vertebrates: Integumentary system. Digestive system. Respiratory system and related structures. Excretory system. Reproductive system. Endocrine system. Skeletal system. Muscular system. Circulatory system. Nervous system. Receptor organs. Part III, Representative animals: The marine lamprey. The spiny dogfish. The mud puppy The cat. Summary: Characteristics and advances. Index.

Note: Most of this introductory textbook is devoted to comparative discussions of the various organ systems of vertebrates. In these discussions the main emphasis is on function, but developmental and structural differences are noted also. The third part of the work presents in considerable detail the anatomy of four animals that are widely used for dissection and study in introductory laboratory courses in biology. The book contains about 800 illustrations of excellent quality and an exceptionally detailed index.

WIEMAN, HARRY LEWIS

An introduction to vertebrate embryology Second edition New York McGraw-Hill Book Company Inc., 1949 412 p illus. 24 cm. (McGraw Hill publications in the zoological sciences, A. Franklin Shull, consulting editor) $5.00. 768

Contents. Development. The cellular basis of development. The early development of the frog. An outline of the early development *of the chick. The nervous system and the sense organs of the chick.* The alimentary canal of the chick and its outgrowths. The circulatory system of the chick. The urogenital system of the chick. Intrauterine development of mammals. The early embryo and embryonic membranes of the pig and man. Outline of organogenesis in the human embryo. The origin of muscle, connective tissue, skeleton, and integument. Human growth and development. Appendix. Index.

Note: (1763) A textbook *for introductory courses, written from* the standpoint of comparative embryology. A considerable part of the space is devoted to the embryology of the frog and the chick; but as the chapter titles indicate, human embryology is also considered. The first edition appeared in 1930. Although the number of pages in the present edition is essentially the same, important changes have been made. These include a fuller discussion of the embryology of the frog, new material on the human embryo, and the transfer of some of the hypothetical material to the appendix. The illustrations are clearly drawn and about forty of them are new in this edition.

MAN

ASHLEY MONTAGUE MONTAGUE FRANCIS

An introduction to physical anthropology A revised second edition. Springfield, Illinois Charles C Thomas 1951 555 p. illus. 24 cm. $8 75 769

Contents: Introduction. The primates as a zoological group. The origin and evolution of the primates. The origin and evolution of man. The criteria and mechanism of ethnic differentiation. The divisions and ethnic groups of man. The significance of innate differences or the relation between body mind, and culture. Heredity and the influence of the environment upon man. Appendix A practical synopsis of methods of measurement in physical anthropology *Bibliography* Index.

Note. (655*) An excellent inclusive introduction addressed both to general readers and to those with some professional interest in the field such as students of medicine or sociology It illustrates the scope of physical anthropology and outlines the background knowledge, but is mainly descriptive from the standpoint of physical anthropology of the various groups and divisions of man. The appendix contains an informative and rather full outline of accepted methods of making anthropological measurements of man. The first edition was published in 1945. This edition shows revisions in many sections of the text, although no major changes have been made. Additions and revisions have been made in the illustrative matter and there are now 110 figures. Literature published since 1945 has been added to the bibliographies.

BATES MARSTON

Where winter never comes a study of man and nature in the tropics. New York Charles Scribner's Sons 1952 310 p. illus. 22 cm. $3 50 770

Contents: The point of view The element of history The varieties of tropical man. The varieties of tropical culture. The incidence of civilization. On tropical climates. Clothes make the man. The white man burden. Tropical diseases Food and drink. Tropical nature. The rain forest. Tropical seas. The resources of the tropics. The varieties of tropical government. The planetary neighborhood. Notes and documentation. A note on the illustrations. *References. Index.*

Note: A very readable book by naturalist who has had much experience with living in the tropics and has observed at first hand the white man's adaptation (and lack of it) to the tropical climate and living conditions. One thesis is that the white man's difficulties derive mainly to his unwillingness to go far enough in adjusting his living habits, particularly in suitable clothing. Much of the content of the book consists of discussions of tropical foods, tropical diseases, tropical resources, etc., and the net result is picture of the tropics as region of vast potentialities once civilized man has learned to adapt himself to it.

BOYD WILLIAM CLOUSER

Genetics and the races of man an introduction to modern physical anthropology With illustrations. Boston Mass. Little, Brown and Company 1950 453 p. illus. 21 cm. $6 00 771

Contents Possible approaches to study of man. Genetics. Heredity and environment. Gene equilibrium without evolution. Factors modifying gene frequencies (evolution) The influence of geography on racial distribution. The concept of race. Blood groups. Use of blood groups in human classification. Other human genetic. Incompletely analyzed genetic characteristics. Man's past. Man's future. Appendixes: Statistical methods. Mathematical treatments of problems. Index.

Note In this book modern physical anthropology the scientific basis of genetics upon which it rests, and the way in which genetic knowledge can be applied to the study of mankind are summarized and explained. It is intended as an introduction for the general reader and as summary for the specialist. The technical survey of statistical and mathematical aspects in the appendix runs to 21 pages.

COON, CARLETON STEVENS AND OTHERS

Races a study of the problems of race formation in man By Carleton S Coon Stanley M Garn and Joseph B Birdsell. Springfield, Illinois Charles C Thomas 1950. 153 p. illus. 22 cm. (American lecture series. Publication number 77 A monograph in American lectures in physical anthropology Edited by T D Stewart and others) $3.50 772

Contents (abridged) The study of races. Race and the issue. Adaptive changes in the whole body Surface variations: adaptations to extremes of light and heat under different degrees of humidity—adaptations to dry cold—adaptations to cool, damp climates. Race and evolutionary status. Race and the invisible world. The races of the world. Bibliography Index.

Note: The main viewpoint in this short but valuable survey is illustrated in the following quotation "Changes in the genetic make-up of human beings have been taking place for hundreds of millenia, through the processes of mutation and selection without the intent or even the knowledge of man himself. A reason for this is that human beings, like other organisms, live in specific physical environments which are not all alike. The authors show that little is known about the genetic relationships between races and other human groups, but they give good account of environmental influences upon race development via mutations. In the final chapter race is defined as A population composed of individuals who normally interbreed, possess common genetic pool, and look alike within broad limits." The racial groups currently recognized by scientific workers in the field are briefly described from the standpoint of physical anthropology There is a bibliography of 91 citations.

DUBLIN, LOUIS ISRAEL

The facts of life from birth to death. In collaboration with Mortimer Spiegelman. New York The Macmillan Company 1951 461 p. illus. 22 cm. $4 95 773

Contents: Who we are—the population. The pattern of reproduction. The pattern of marriage. The average American family Marital dissolution by divorce, separation, and death. The sick and their care. Mortality—in general. The conquest of tuberculosis. The mystery of cancer. The control of diabetes. A diminishing burden—pneumonia and influenza. An increasing burden—the circulatory diseases. The problem of the rheumatic diseases. The hazards of infancy and childhood. Our old people. The accident toll. Suicide and homicide. The labor force and the hazards of occupation. Human impairments. Mental health. Other diseases of public interest. Our body build. The public health and its administration. How long we live. The effects of war. Selected references. Index.

Note: A reference book of answers and statistical data on such questions as "What is the most popular age for brides?" and "What are the grades of mental deficiency?" It is cast in readable form and is addressed not only to people with serious interests in the data but also to those who like to browse for curious information. The senior author is Statistician for the Metropolitan Life Insurance Company and an internationally known authority on the vital statistics of living and dying. The bibliography does not list all of the sources used but is primarily selected one for those readers who wish to pursue further information on specific topics.

DUBLIN LOUIS ISRAEL, AND OTHERS

Length of life, a study of the life table. By Louis I. Dublin, Alfred J Lotka, and Mortimer Spiegelman. Revised edition. New York The Ronald Press Company, 1949 379 p. illus. 24 cm. $7 00 774

Contents: The life span and the life table. The life table as record of progress to the end of the nineteenth century. The gain in longevity in the United States in recent years. Geographic variations in longevity. Biological aspects of the life tables. The inheritance of longevity. Biological factors influencing longevity and mortality. The contribution of medical and sanitary science to health and longevity. Forecasts of mortality and longevity. Longevity and mortality in relation to physical condition. Longevity and mortality in relation to occupation. Application of the life table to population problems. Application of the life table to economic problems. Life tables based on the experience of life insurance companies. *Life table construction. Appendix. Life tables. List of* sources to life tables. Name index. Subject index.

Note: (1763a) A standard work written by statisticians associated with the Metropolitan Life Insurance Company. Although based on life expectancy tables such as are used by insurance companies, it covers more than the purely quantitative aspects of the subject. Biological and social circumstances which affect the duration of human lives also are discussed; hence the work is of interest not only in the life insurance field but in medicine, public health, and sociology as well. The chapter on biological factors influencing longevity and mortality and that on forecasts of mortality and longevity have been added in this edition. Changes have been made in other parts of the book where advances in knowledge required them. Literature references have been revised. The book now contains 94 tables of data on mortality rates, life expectancies, etc.

KROGMAN WILTON MARION

A handbook of the measurement and interpretation of height and weight in the growing child. Editorial board Melville J Herskovits and others. Evanston, Ill. Child Development Publications (of the Society for Research in Child Development Inc.) Fayerweather Hall East, Northwestern University 1950 68 p. 23 cm. (Monographs of the Society for Research in Child Development. Serial no 48) $1.50 775

Contents: Foreword. Introduction. Height, weight, and height-weight-age tables. References.

Note: Height and weight are widely accepted as measures of physical growth. This manual for teachers, pediatricians, and others concerned with child development analyzes such measurements, and discusses the extent to which they may be interpreted as indications of growth progress. Methods of securing accurate measurements and the interpretive statements are supplemented by height-weight-age tables and graphs. An extensive bibliography is included.

LAUGHLIN WILLIAM S editor

Papers on the physical anthropology of the American Indian. Delivered at the fourth Viking Fund Summer Seminar in Physical Anthropology held at the Viking Fund, September 1949 Edited by William S Laughlin. The seminar planned by S L. Washburn. New York The Viking Fund, Inc. 1951 202 p. illus. 23 cm. Paper 776

Contents: The problem of the early peopling of the Americas as viewed from Asia, by J. B. Birdsell. The sequence of Indian physical types in South America, by M. T. Newman. The Alaska gateway viewed from the Aleutian Islands, by W. S. Laughlin. The blood groups and types, by W. C. Boyd. The dentition of the American Indian, by A. A. Dahlberg. Some genetic variations in American Indians, by J. N. Spuhler

Note: A collection of original papers addressed primarily to graduate students working in physical anthropology and related fields. "The papers presented in this volume reflect in a measure the changing emphasis that is taking place in physical anthropological studies. This is noticeable in the greater emphasis placed on the processes of change, the sequence of types, validity of criteria currently employed and the development of new methods.

MACGOWAN, KENNETH

Early man in the New World. With drawings by Campbell Grant. New York The Macmillan Company 1950 260 p. illus. 22 cm. $5 00. 777

Contents: This sudden New World. The road of early man. The dead hand of the ages. The great ice age. Early man in the Old World. What the bones have to say. The artifacts of early man. Early man and the great extinctions. Pygmies, australoids, and mongoloids—before Indians? Did the Indian invent or borrow his culture? The Indian in agriculture. Puzzles, problems, and half-answers. References in the text. References as to illustrations. Index.

Note: A readable summation of present-day knowledge concerning the origin of man in America. Besides presenting the various facts and theories regarding the first appearance of man in the New World, the book offers the interested layman good account of the techniques and methods of the professional archeologist. An extensive bibliography is included.

MORTON, DUDLEY JOY

Human locomotion and body form a study *of gravity and man, by Dudley J Morton,* with the collaboration of Dudley Dean Fuller Baltimore The Williams & Wilkins Company 1952 285 p. illus. 24 cm. $5 00. 778

Contents (abridged) Part One, Underlying principles of adaptation Organic interaction with gravity Gravity designing factor. Specialization of the human foot. Gravity and organic change. Mechanics of foot balance. Weight distribution in locomotion. The foot in walking. Gravity and muscle action. Structural factors. Physiological economy—Canadian Army foot survey. Postural and locomotor habits. *Part Two, Analysis of the walking stride:* Foot contact and synchronized actions. Weight division during foot contact. The leverage interval. Horizontal components of force. Metabolism and locomotion. Histological and chemical aspects. Metabolic economy in muscle function. Human mentality and bipedism. Bibliographical references. Index.

Note: Anatomical, metabolic, postural, and mechanical considerations are coordinated in this comprehensive study. Some attention has been given also to the evolutionary aspects. The first named author is medical graduate and an authority on anatomy; his collaborator is an associate professor in the Department of Mechanical Engineering of Columbia University

SCHEINFELD AMRAM

The new You and heredity With special editing in the medical genetics sections by Dr Morton D Schweitzer and additional aid by others herein mentioned. Illustrated by the author Philadelphia J B Lippincott Company 1950 616 p illus. 22 cm. $6.00. 779

Contents (abridged) The science of genetics. The eternal germ plasm. What we don't inherit. The perilous road to birth. "Boy or girl?" Coloring—eyes. Hair color. Skin color. What will your child look like? "Twins, quads" and "quints." The "black" genes. The poor males. Sick minds. Slow minds. The blood types. How long will you live? "Black genes" roll-call. The battle of the "IQs." Genius. Behavior. Sex life (sex and sexual behavior). Race. Ancestry. Eugenics and the "unfit." Suggestions for further reading. Index.

Note: (1760a) The modern knowledge pertaining to human heredity is, in this book, described and explained for the non-specialist. The book is outstanding for its inclusiveness and for the author's unique style whereby he manages to convey scientific information in a way that makes it vital to every reader. The book is packed with facts; and, without "crying alarm," these facts are directly related to the reader's own life and person and to those of his *fellow men.* The first edition was published in 1939. In this edition there is so much newly added material that the book is essentially a new work as indicated by the title.

SELLARDS, ELIAS HOWARD

Early man in America, a study in prehistory A publication of the Texas Memorial Museum. Illustrations by Hal Story Austin University of Texas Press 1952 211 p illus. 24 cm. $4 50 780

Contents (abridged) Geologic time divisions. Conditions of occurrence and preservation of early man records. Hunters of the plains. The elephant hunters. The bison hunters. Folsom man. Plainview man. The Cordilleran mountain belt. The Atlantic and Gulf coastal plains. Some South American localities. Markings on stone and bone. Origin of American cultures. Large mammals of the late pleistocene. Time of extinction of large mammals. Age determinations of certain culture complexes. List of localities and index to literature. General considerations. Bibliography Index.

Note. Although written in narrative style, this book is primarily reference book on the sites (and the artifacts found at each) where important evidence has been found on man's existence in North America in prehistoric times. Sites of discoveries are specifically described and particular attention is given to the relative positions of projectile points, scrapers, animal bones, and other artifacts found in each. Dates of artifacts as established by the radiocarbon method are given in many instances. The list of localities and index to literature occupy about half of the volume.

SHUTTLEWORTH FRANK KAYLEY

The adolescent period a pictorial atlas. Evanston, Ill. Child Development Publications, 1951 69 p illus. 24 cm. (Society for Research in Child Development, Inc. Monographs. Vol. xiv no 2) Paper 781

Contents: Physical growth and sexual maturation of girls. Stages of sexual maturation among girls. Sexual maturation of boys. Individual differences in the sexual maturity of boys. Stages of sexual maturation among boys. Types of obesity Variations in body builds at age fifteen. Sheldon's somatotypes. Effects of partial starvation on somatotypes. Androgyny References.

Note A monograph that consists largely of photographs with descriptive legends and brief explanatory texts. The monograph is designed and the photographs selected "to illustrate the processes of physical growth, sexual maturation, and differences in body builds among normal adolescents. The work is companion volume to the author's *The adolescent period, graphic atlas* published as vol. XIV no. 1 in the same series (see index)

STERN, CURT

Principles of human genetics Illustrations by Aloha M Hannah. San Francisco W H. Freeman and Company 1949 617 p illus. 24 cm. (A series of biology texts editors George W Beadle and others) $6.25 782

Contents. Introduction. The biological basis of man's inheritance. Genic action. The formation of germ cells with 14 chromosomes—meiosis. Probability Simple single factor inheritance. Lethal and sublethal genes. Problems of genetic advisers. Genetic ratios. The Hardy-Weinberg law Multiple alleles. Medicolegal applications of genetics. *Sex-linkage. Linkage and crossing over. Irregularities in* the expression of genes. Prenatal interactions. Multifactor inheritance. Consanguinity Sex determination. The sex ratio. The occurrence of mutations. The production and significance of mutations. Heredity and environment. Selection and eugenics. Genetic aspects of race. Genetic aspects of race mixture. The origin of human diversity Index.

Note. This book is designed primarily for use in college courses. A course in general genetics is not prerequisite, but the level of discussion implies at least previous course in general biology The authoritative discussions on such topics of general interest as the genetic aspects of race make the book useful in general library collections. Selected lists of references accompany the chapters. The author is member of the faculty of the University of California.

STOLZ, HERBERT ROWELL AND LOIS MEEK STOLZ

Somatic development of adolescent boys a study of the growth of boys during the second decade of life. New York The Macmillan Company 1951 557 p. illus. 24 cm. $9.00. 783

Contents: The study of human development. The California adolescent study Description of the study of somatic development of boys. The period of pubertal growth in height. Growth in height during adolescence. Growth in stem length and leg length during adolescence. Growth in body width during adolescence. Timing relations among phenomena of skeletal growth during adolescence. Skeletal age in relation to height growth. Changes in thickness of subcutaneous tissue during adolescence. Growth in thigh circumference during adolescence. Changes in weight during adolescence. Growth in strength during adolescence. The development of pubic hair and external genitalia during adolescence. Increase in adipose tissue during early adolescence. The rhythm of growth during adolescence. General summary and conclusions. Relation of somatic changes to other developmental phenomena during adolescence—the case of Ben. Appendices (abridged): Subcutaneous tissue index. Muscle strength index. Index.

Note: As part of the California Adolescent Study frequent and detailed measurements were made of the body changes of 112 boys and 121 girls over approximately seven years. The data on the boys are presented and interpreted in this book. A considerable part of the presentation is made in tables—of which there are more than 100—and graphs, of which there are nearly as many However the data are also discussed fully Perhaps the most noteworthy feature is the inclusion of many photographs which portray stages in male adolescent development. The final chapter is page study of one boy in which somatic development is correlated with changes in personality and social behavior. The book is of interest to graduate psychologists, pediatricians and other scientists with professional interests in the subject.

TALLMADGE, GUY KASTEN

Basic biology of man. New York Random House, 1952 244 p. illus. 21 cm. $3.00. 784

Contents The cell. Tissues. Basic structure and organization. The common integument. The locomotor apparatus. The digestive system. The reproductive system. The circulatory system. The respiratory system. The urinary system. Index of subjects. Index of names.

Note: An introduction designed for general reading rather than textbook use. The author has presented factual outline of the main biological processes, and has avoided emphasis on spectacular aspects. There are only few illustrations and these are the plainest kind of drawing. The book is suitable for mature lay readers who desire reliable rather than "fascinating" account.

WATSON ERNEST H., AND GEORGE H LOWREY

Growth and development of children. Chicago The Year Book Publishers, Inc. 1951 260 p. illus. 23 cm. $5 75 785

Contents: Introduction. Heredity and environmental factors. Fetal growth and development. Normal physical measurements. The premature child. Behavioral development. Organ development. Osseous development. Role of the endocrine glands in normal growth and development. Energy metabolism. Nutrition in normal growth. An outline of abnormal growth. Index.

Note. An inclusive, up-to-date survey of the essential current knowledge of growth during childhood. It is suitable for use as textbook and also as reference work for physicians, public health workers, social workers, etc. Selected bibliographies are included. The authors are associated with the Department of Pediatrics of the Medical School of the University of Michigan.

WECHSLER, DAVID

The range of human capacities. Second edition. Baltimore The Williams & Wilkins Company 1952 190 p. illus. 23 cm. $4.00 786

Contents: Introduction. The problem. The measurement of human capacities. The distribution of traits and ability The range of human capacities. Natural constants and the limits of human variability Range in productive operations. Length of life and the chances of survival. Exceptions. The effect and the burden of age. Genius and deficiency The meaning of differences. Appendices: The measurement of mental ability Tables of means, standard deviations and range ratios. Distribution of total range ratios. References. Index.

Note: The thesis of this work is that human variability with respect to any measurable trait or ability is extremely limited when compared to that of other phenomena in nature and that the differences which separate human beings from one another with respect to any trait or ability are far smaller than is ordinarily supposed. The author suggests that the reader in considering the data which support the thesis, lay aside any previous opinion he may have held in the matter, since the conclusions have important bearings on a number of social questions. The bibliography of 174 references indicates the sources from which the presented facts are drawn. The book was first published in 1931 and has been out of print for some years. In preparing this edition the author added two chapters and substantially revised some of the material carried over from the first edition.

WEIDENREICH, FRANZ

The shorter anthropological papers of Franz Weidenreich published in the period 1939–1948 A memorial volume compiled by S. L. Washburn and Davida Wolffson. New York The Viking Fund, Inc., 1949 267 p. illus, 23 cm. Paper 787

Contents: The trend of human evolution. The human brain in the light of its phylogenetic development. Generic, specific and subspecific characters in human evolution. The brachycephalization of recent mankind. The external tubercle of the human tuber calcanei. Some problems dealing with ancient man. The "Neanderthal man" and the ancestor of "Homo sapiens." Facts and speculations concerning the origin of Homo sapiens. Some particulars of skull and brain of early hominids and their bearing on the problem of the relationship between man and anthropoids. The duration of life of fossil man in China and the pathological lesions found in his skeleton. On the earliest representatives of modern mankind recovered on the soil of east Asia. The Keilor skull—a Wadjak type from southeast Australia. The paleolithic child from the Teshik-Tash cave in southern Uzbekistan (central Asia) Franz Weidenreich, 1873–1948, by W. K. Gregory Bibliography

Note: Dr. Weidenreich was noted for his work in the fields of human evolution and anthropology These papers, reprinted from various scientific journals and representative of his primary interests, are but a small part of his writings. A biographical sketch and complete bibliography of Weidenreich's publications from 1899 to 1949 are included.

YEARBOOK OF PHYSICAL ANTHROPOLOGY 1950, Volume 6 Edited by *Gabriel W Lasker* and J Lawrence Angel. New York Wenner Gren Foundation for Anthropological Research, Inc., 1951 314 p. illus. 27 cm. 788

Contents: Some old hypotheses tested and some new theories d... ...theories in physical anthropology during 1950, by G. W Lasker The scope of physical anthropology: what is to be taught, by B. A. Kaplan. The evolutionary significance of the Australopithecines, by J. T Robinson. Age of puberty in the tropics, by R. W B. Ellis. The blood groups of the people of Egypt, by I. A. Donegani and others. The blood groups of the Icelanders, by I. A. Donegani and others. Taste deficiency for phenylthiourea in African Negroes and Chinese, by N A. Barnicot. Ethnology of schistosomiasis in Uganda, by R. Elsdon-Dew The incidence of *sickle cell trait in Negroes from the Sea Island area of South Carolina*, by P K. Switzer. Limitations of the "normal" body weight as a criterion of normality by J Brožek and A. Keys. Evaluation of leanness-fatness in man—a survey of methods, by J. Brožek and A. Keys. The physical distinctions of man, by A. H. Schultz. Man's relation to the apes, by W C. Osman Hill. Man and other mammals from Toalian sites in south-western Celebes, by D. A. Hooijer. The racial origin of the extinct Tasmanians, by J. B. Birdsell. The MNS blood groups of Australian aborigines and New Guinea natives, by R. Sanger. A bibliography and historical review of physical anthropology in Canada, 1848–1949 by R. E. Popham. Cranial injuries in prehistoric man with particular reference to the Neanderthals, by C. B. Courville. On the prediction of human stature from the long bones, by A. Telkkä. Taxonomy and human evolution, by S. Zuckerman. A comparison of the teeth of people—Indo-European racial stock with the Mongoloid racial *stock*, by R. K. Tratman.

Note: A typical issue of this annual. It supplements the *American journal of physical anthropology* by reviewing the literature of the whole field and by reprinting pertinent articles which were first published in periodicals other than the *American journal of physical anthropology* The first article is a compact summary of the world literature published during the year It is accompanied by a comprehensive bibliography

HUMAN ANATOMY

GENERAL

ANSON, BARRY JOSEPH

An atlas of human anatomy Philadelphia W B Saunders Company 1950 518 p. illus. (part col d) 28 cm. $11 50 789

Contents (abridged) The head. The neck. Upper extremity The back and thorax. Abdomen. The pelvis and perineum. Lower extremity Index.

Note. A new atlas of gross human anatomy in which most of the illustrations are original and were made directly from new dissections. The exceptions are certain illustrations previously published with articles by the author in professional journals. Also there are a few plates of generalized drawings based on statistical study of laboratory specimens. Generally speaking, however the book can be described as wholly new work based on direct study rather than on previous publications. The quality of the drawings and their reproduction is excellent. The book is suitable both for use as text in first year courses in medical colleges and as an office reference book for graduate physicians and surgeons.

CATES HARRY ARTHUR

Primary anatomy Second edition. Baltimore The Williams & Wilkins Company 1951 344 p. illus. 26 cm. $6 00 790

Contents: The beginning of life. Skeletal system. Articular system. Muscular system Digestive system. Respiratory system. Urinary system. Generative or reproductive system. Circulatory system. Nervous system. Eye and ear. Skin and endocrine glands.

Note. (473) A textbook of human anatomy for readers such as student nurses, physiotherapists, and occupational therapists whose interests in the subject are professional but not medical. With such an audience in mind the author has chosen the functional approach rather than the topographical, and he has written longer and more detailed chapters on the skeletal, muscular nervous, and circulatory systems than on other systems The style is less technical than in most introductory books on anatomy Extensive revisions are apparent in the second edition, although the chapter titles are the same. About one-quarter of the 403 illustrations are new or have been re-drawn.

DICKINSON ROBERT LATOU

Human sex anatomy a topographical hand atlas. Second edition. Baltimore The Williams & Wilkins Company 1949 145 p. illus. 31 cm. (National Committee on Maternal Health, Inc. Medical aspects of human fertility) $10.00 791

Contents (abridged) Text and commentary: Purpose and methods. The bony pelvis. Uterus, ovaries and tubes. The vagina. The vulva and breast. Male genital anatomy The anatomy of coitus. The anatomy of the control of conception. Conclusions and program. Bibliography The atlas proper. Index.

Note. A very detailed work containing 175 figures, some of which contain more than ten drawings and few of which contain only one. The drawings are original but some are based on illustrative matter which has appeared elsewhere. Most of these are sketches rather than fully developed anatomical studies The drawings are preceded by text in which they are described and discussed with references to an extensive bibliography This text accounts for the pagination given above the illustrations are printed on unnumbered pages of which there are approximately 200 The presentation is slanted toward the general practitioner of medicine whose practice includes sex education and advice to married couples. However it is the fullest treatment of the subject available and therefore is potentially of value to any medical school graduate in need of information on the subject.

FRANCIS, CARL C

The human pelvis. With 61 illustrations including 3 in color St. Louis The C. V Mosby Company 1952 210 p. illus. (part col d) $5.00. 792

Contents. Bones of the pelvis. Ossification of the pelvic bones. Pelvic articulations. Pelvic girdle. Muscles and fasciae. Vessels of the pelvis. Pelvic nerves. Intestine within the pelvis. Urinary system within the pelvis. Female genitalia. Male genitalia. Embryology Index.

Note: A detailed description of the anatomical structure of the human pelvis, with some attention to the embryology It is based partly on the literature and partly on original studies made by the author and his colleagues at Western Reserve University Some of the text and some of the illustrations are based on original dissections. The book is the development of course in applied anatomy at the graduate level and is intended for the instruction of practicing surgeons and for medical school graduates preparing for surgery Carefully selected literature references are included.

GRANT, JOHN CHARLES BOILEAU

An atlas of anatomy By regions. Third edition. Baltimore The Williams & Wilkins Company 1951 637 p illus. (part col'd) 29 cm. $12.00. 793

Contents: The upper limb. The abdomen. The perineum and pelvis. The lower limb. The vertebrae and the vertebral column. The thorax. The head and neck. The cranial nerves and the dermatomes. Index.

Note. (475*) An outstanding work of its kind. It consists entirely of illustrations with accompanying descriptive legends. The illustrations are arranged by region and in sequence within regions. T insure accuracy the artists who prepared the drawings worked with the dissected specimens before them and built up their drawings on tracings made from photographs of the same specimens. In the present edition there are 637 figures, most of which contain more than one drawing Seventy of these are new additions and 28 are redrawings or substitutions for illustrations that appeared in the second edition. Also color has been used in more of the drawings in the present edition.

GRANT JOHN CHARLES BOILEAU

A method of anatomy *descriptive and deductive* Fifth edition. Baltimore The Williams and Wilkins Company 1952 870 p. illus. 26 cm. $7 00 794

Contents: Section I, General: Bone and cartilage. Digestive system. Section II, The upper limb: Introduction. Cutaneous nerves and veins. Flexor region of the forearm. Section III, The abdomen Anterior abdominal wall. Abdomino-pelvic cavity The three paired glands. Section IV The perineum and pelvis: Perineum. Male pelvis. Female pelvis. Section The lower limb: Introduction. Leg and dorsum of foot. Hip joint. Section VI, The thorax. Bony thorax. Pericardium and contents. Section VII, The head and neck: Front of the skull and the face. Posterior triangle of the neck. Contents of the cranium. Anterior triangle of the neck. Cervical vertebrae and the prevertebral region. Pharynx. Larynx. Section VIII, Miscellaneous Autonomic nervous system. Bones of the skull. Index.

Note (476) A successful textbook for first-year students in medical colleges. It is less voluminous than some basic texts and this brevity has been achieved partly by the use of small diagrammatic figures instead of plate type drawings and partly by compact and ably written text. The understanding of regions is stressed. The fourth edition was published in 1948. In preparing this edition the author corrected minor errors and added material in several sections. 60 illustrations were redrawn or improved in some way and 78 illustrations were added.

THOREK, PHILIP

Anatomy in surgery 720 illustrations 211 in color drawn by Carl T Linden Philadelphia J B Lippincott Company, 1951 970 p illus. 26 cm. $22 50. 795

Contents (abridged) Section one, The head. Section two, The neck. Section three, The thorax. Section four The abdomen. Section five, The pelvis. Section six, Male perineum and external genitalia. Section seven, Female perineum and external genitalia. Section eight, The superior extremity Section nine, The inferior extremity Section ten, Vertebral column, vertebral (spinal) canal, spinal cord. Index.

Note: In this textbook for students in medical colleges anatomy is presented from the surgeon's viewpoint. The material is organized in 49 chapters arranged by regions of the body as indicated by the section titles. The exposition is conducted in clear, direct style and the illustrations are of high quality The author is member of the faculty of the College of Medicine of the University of Illinois.

SPECIAL REGIONS AND ORGANS

BAST THEODORE HIERONYMUS, AND BARRY J ANSON

The temporal bone and the ear Springfield, Illinois Charles C Thomas 1949 478 p. illus. 24 cm. $12.00 796

Contents: The temporal bone and the ear. The otic labyrinth. The perilotic labyrinth. The otic capsule. Histological variations and pathological processes. Bone dystrophies. The origin and development of the middle ear and related air spaces. The auditory ossicles. A historical survey of the structure and function of the internal ear. Index of authors. Index of subjects.

Note. A substantial monograph on the morphology and embryological development of the temporal bone and the ear. It is based mainly on direct studies of more than 130 series of sections. It is illustrated with remarkable series of microphotographs, drawings of reconstructions, and drawings from projection tracings of actual sections. Thirty of the illustrations are reproduced in color. The final chapter is an outline of outstanding studies of the inner ear from 350 B. C. to 1939 A. D., and is supplemented by selective bibliography

FRIEDMAN SYDNEY M

Visual anatomy—head and neck. Springfield, Illinois *Charles C Thomas, 1950 217* p. illus. 25 cm. $7.50 797

Contents: Anterior aspect of the neck. Lateral aspect of the neck. The suprahyoid region The submandibular region. The skull. The infratemporal region. The continuity of temporal and infratemporal regions The parotid region. The face and scalp. The skull. The orbit. The nose. The auditory apparatus. The skull. The back of the neck. The cervical viscera. Lymphatics. Index.

Note: Not conventional atlas but selective, compact treatment designed for use by upperclass students in medical colleges and graduates in need of review or as the author terms it reviewer text. It is organized so that drawing on the right hand page faces the verbal description on the left-hand page. The sequence of drawings is from the inside out, or the reverse of the traditional arrangement of anatomic atlases. The drawings are diagrammatic rather than literal renderings.

HOLLINSHEAD WILLIAM HENRY

Functional anatomy of the limbs and back a text for students of physical therapy and others interested in the locomotor apparatus. Philadelphia W B Saunders Company *1951 341 p. illus. 24 cm. $6 00 798*

Contents (abridged) Section I, The organization of the body: Anatomical terminology The tissues of the body The organs and organ systems Section II, The upper limb: The shoulder The arm. Forearm and hand. Actions of forearm muscles. The hand. Movements of the fingers Section IV The lower limb The pelvis, buttocks and hip. The thigh and knee. The leg. The foot. Index.

Note: An introductory textbook for the use of students who are preparing for careers as physical therapists, physical education instructors, etc. The author is Head of the Section on Anatomy of the Mayo Clinic.

LERCHE, WILLIAM

The esophagus and pharynx in action, a study of structure in relation to function. Springfield Illinois Charles C Thomas, 1950. 222 p. illus. 24 cm. $6.50 799

Contents: Introduction. The muscular coat of the esophagus. The mucosa and the musculature of the alimentary canal from cardia to mesopharynx, as observed in specimens in which characteristic markings pertaining to the act of regurgitation had survived. The ampulla. The phreno-esophageal elastic membrane. Rumination—merycism. The movement of regurgitated contents through the lower esophagus. The movement of regurgitated contents through the middle and upper esophagus. The cricopharyngeus muscle. Mechanism of deglutition. The cardia. The mechanism of the gastro-esophageal segment of expulsion during the act of deglutition in man. Appendix. Bibliographical index. Author index. Subject index.

Note: An original work based chiefly on the study of one hundred specimens obtained in dissecting rooms. On the basis of these studies, the author elucidates the relations of structure and function in the portion of the alimentary canal that extends from the cardia to pharynx and includes these organs. Pertinent material from published literature is also included. There are 93 illustrations of which considerable number are reproduced from photographs of specimens. The book is of interest to anatomists and wide range of medical practitioners.

NERVOUS SYSTEM

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Patterns of organization in the central nervous system. Proceedings of the association, December 15 and 16 1950 New York. With 268 illustrations and 12 tables. Baltimore The Williams & Wilkins Company 1952 581 p. illus. 23 cm. (Association for Research in Nervous and Mental Diseases. Research publications. Vol. xxx. Editor Philip Bard) $12.00 800

Contents Central versus peripheral factors in the development of coordination, by P Weiss. The mammalian small-nerve fibers—a system for efferent nervous regulation of muscle spindle discharge, by S. W Kuffler and C. C. Hunt. On reflex actions of muscular origin, by D. P C. Lloyd. Reflex patterns in intersegmental systems, by C. G. Bernhard. An electrical hypothesis of central inhibition and facilitation, by W S. McCulloch and others. Patterns of organization of tendon reflexes suggested by knee jerk latencies, by M. Hines and G. C. Knowlton. Spinal reflex patterns in man, by J W Magladery and others. A study of cortico-spinal activation of motor neurons, by J. M. Brookhart. Brain stem influences on spinal motor activity by D. B. Lindsley Supraspinal mechanisms of facilitation and inhibition of cord reflexes, by G. M. Austin. Motor phenomena elicited in the unanesthetized animal by electrical stimulation of the cerebral cortex, by J. W Ward. Patterns of localization in precentral and "supplementary" motor areas and their relation to the concept of premotor area, by C. N. Woolsey and others. Interrelations of cerebellum and brain stem, by R. S. Snider Convulsive patterns in cerebellum and brain stem, by J. W Markham and others. Cerebro-cerebellar projections and the somatotopic localization of motor function in the cerebellum, by J. L. Hampson and others. Cerebellar projections to the cerebral cortex, by E. Henneman and others. The central representation of some forms of deep sensibility, by V B. Mountcastle and others. Interaction in the somatovisceral projection system, by V E Amassian. Topographical and functional determinants of cortical localization patterns, by T C. Ruch and others. Functional organization of central visual pathways, by H. T Chang. The cortical connections of the reticular complex of the thalamus, by J E. Rose. The ascending reticular activating system, by H. W Magoun. Thalamocortical integrating mechanisms, by H. H. Jasper and C. Ajmone-Marsan. Epileptic automatism and the centrencephalic integrating system, by W Penfield. Functional interpretation of anatomic patterns, by K. S. Lashley. List of members. Index

Note: A collection of original papers designed to present a fair sampling of recent developments in how the central nervous system works. Most of the papers are accompanied by excerpts from the discussions at the meeting and by references to the pertinent literature.

BAILEY, PERCIVAL, AND GERHARDT VON BONIN

The isocortex of man. Urbana University of Illinois Press 1951 301 p. illus. (part col d) 27 cm. Paper, $5 00, cloth, $6 00 801

Contents. Historical introduction. Growth and weight of the brain. Fissures of the brain. Cortical types. Serial sections. The brain map. Intracortical connections. Afferent and efferent connections. Functional significance. Bibliography Plates.

Note. A fresh study of the isocortex of the human brain based mainly on an unusually good specimen that was fixed within one hour of death. The findings of this particular study are correlated with the findings of other workers in the field. As a result of this study and a study of the published writings of other workers, the authors state after long and careful study of the human isocortex, the main impression that we have retained is that vast areas are so closely similar in structure as to make any attempt at sub-divisions unprofitable if not impossible. Nevertheless, in their chapter on the brain map and in subsequent chapters they discuss critically the findings and conclusions of others and state certain tentative conclusions of their own on this aspect of brain study. The bibliography is extensive but not exhaustive. There are more than 120 figures—many of which bear reproductions of more than one drawing—and fifteen plates.

BUCHANAN, ARCHIBALD RAY

Functional neuro-anatomy, including an atlas of the brain stem. Second edition thoroughly revised. With 273 illustrations, 19 in color Philadelphia Lea & Febiger, 1951. 323 p. illus. (part col d) 27 cm. $7.50 802

Contents (abridged) Development and histogenesis of the nervous system. Divisions of the nervous system. The spinal cord. The tactile, pain, and thermal pathways. The proprioceptive pathways. External and internal configurations of the brain stem. Relations within the brain stem of the general sensory pathways. The pathways concerned in the conduction of general afferent impulses from the head region to the thalamus. The special senses of taste, hearing, equilibrium, sight, and smell. The internal capsule. The cerebrum. The sensory areas of the cortex. The cyto-architecture of the parietal, temporal and occipital lobes. The motor cortex and its projections. The lower motor neurons. The cerebellum—its afferent and efferent connections. Extrapyramidal areas of the cerebral cortex and extrapyramidal fibers. The hypothalamus. The visceral efferent (autonomic) system. The basal ganglia. The rhinencephalon. The ventricles of the brain. The cerebrospinal fluid. The blood supply of the central nervous system. The interstitial tissue of the central nervous system. Bibliography Index

Note A relatively brief text, written primarily for medical college students. As the title and chapter organization indicate, the subject is presented from the standpoint of function rather than level. The first edition appeared in 1949 The major change made in this edition was the adding of a 73-page atlas of the brain stem. The author is Professor of Anatomy in the University of Colorado School of Medicine.

BUCY PAUL CLANCY editor

The precentral motor cortex. Second edition. Urbana, Illinois The University of Illinois Press, 1949 615 p illus. 28 cm. $6 00 803

Contents Foreword, by J F Fulton Introduction, by P C. Bucy Architecture of the precentral motor cortex and some adjacent areas, by G. von Bonin. The role of architectonics in deciphering the electrical activity of the cortex, by J L. O'Leary Afferent connections, by A. E Walker Efferent fibers, by P M. Levin. The pyramidal tract, by S. S. Tower On excitatory and inhibitory processes within the motor centers of the brain, by N Dusser de Barenne and R. Hodeskalu, translated by G von Bonin and W S. McCulloch. Cortico-cortical connections, by W S McCulloch Somatic functions, by M. A. Kennard Relationship to the cerebellum, by P Bailey Autonomic function, by M. A. Kennard The frontal eye fields, by W K. Smith. Electrical excitability in man, by T C. Erickson. Effects of extirpation in man, by P C. Bucy Relation to abnormal involuntary movements, by P C. Bucy Clinical symptomatology by C. D. Aring. Pathology by C. Davison. Significance of the precentral motor cortex, by M. Hines. Bibliography Index.

Note: (1783) When the first edition of this work appeared in 1944 it was widely recognized as a valuable critical evaluation of the field at that time. In the present edition the titles and authors of the monographs that constitute the chapters are the same. However, changes, some of which amount to complete rewriting of paragraphs and others as small as the change of a single reference, are scattered throughout the work. The bibliography has been revised to include literature published as late as 1948. According to the editor, this is the final edition of the book.

CONNOLLY, CORNELIUS JOSEPH

External morphology of the primate brain. Springfield, Illinois Charles C Thomas, 1950 378 p. illus. 25 cm. $10 00 804

Contents The fissural pattern of the primate brain. Encephalometry Development of the cerebral sulci. The brain of the newborn and of children. The fissural pattern of the human brain (Negroes and Whites) Brain and race. The relation of the sulci to the cortical areas. Endocranial casts and brain impressions. Some sulcal relations in the anthropoid and in the human brain. The fissural impressions on the endocranial casts of prehistoric man. On homologies and the origin of sulci. Bibliography Index.

Note: A new study based on material in the Hrdlička Collection of the United States National Museum. Particular brains in this collection are identified and described. Descriptions of individual brains are then synthesized in summary descriptions of the brain characteristics of families and other zoological groups. The author stresses the importance of the sulci in brain mapping and finally discusses the origin and the relations of these features to cortical areas. There are 337 figures and an extensive bibliography

KUNTZ, ALBERT

A text book of neuro-anatomy Fifth edition, thoroughly revised, with 331 illustrations. Philadelphia Lea & Febiger 1950 524 p. illus. 24 cm. $8 00 805

Contents. Evolution and comparative anatomy of the nervous system. Development of the nervous system. Nerve and supporting tissue. Anatomy of the central nervous system. The cerebrospinal pathway and the blood vessels of the central nervous system. Myelinization. Reflex and integrating mechanisms. The cerebrospinal nerves. Internal structure of the spinal cord. Peripheral and central conduction pathways. The medulla oblongata. The pons. The mesencephalon. Central connections of the cranial nerves connected with the medulla oblongata, the pons and the mesencephalon. The cerebellum. The diencephalon. The visual apparatus. The olfactory apparatus. The telencephalon. The autonomic nervous system. Conditioned responses. Laboratory outline. Index.

Note (485*) A long-established introductory text for medical college students. Although the treatment emphasizes the anatomical aspects, the author stresses the importance of understanding the nervous system as a dynamic organization. Particular attention is called to scientific knowledge on the architecture and functioning of the nervous system which has been derived from experiments in recent decades. Changes made in preparing this edition were not extensive, but important information derived from recent experiments has been added, some changes have been made in the illustrations, and a few recent articles have been added to the bibliographies.

KUNTZ ALBERT

Visceral innervation and its relation to personality Springfield, Ill. Charles C Thomas, 1951 152 p. illus. 23 cm. (American lecture series. Publication no. 115 A monograph in American lectures in anatomy edited by Otto F Kampmeier) $4.50 806

Contents. General plan of somatic and visceral innervation. The autonomic nerves Reflex and integrating centers and central conduction pathways concerned in visceral functions. General physiology Innervation of specific viscera. Visceral neural factors in personality Bibliography Index

Note The first five chapters, which account for 111 of the book's pages, are devoted largely to describing the nervous system and of the visceral cavities and organs, including the innervation of specific organs. Only in the final chapter does the author discuss the relations ...

between this innervation and the personality. Here the author reviews the published work, including his own, and reaches such conclusions as: "The visceral urges still remain the mainsprings of conduct, but in man the control of conduct, in a large measure, is carried out through cortical mechanisms of the intellect." There is a 5-page bibliography. The author is Professor of Anatomy in the St. Louis University School of Medicine.

LARSELL, OLOF

Anatomy of the nervous system. Introduction by A. T Rasmussen. Second edition. New York Appleton-Century-Crofts, Inc., 1951 520 p. illus 25 cm. $9.00 807

Contents: The gross anatomy of the brain and spinal cord. The meninges and choroid plexus. Development of the nervous system. Structural elements. Receptors and effectors. Functional arrangement of neurons. Peripheral nerves and ganglia. The visceral system. The internal structure of the spinal cord. The cranial nerves. Internal structure of the medulla oblongata and tegmentum. The cerebellum and the pons. The mesencephalon. The diencephalon. The cerebral hemispheres. The cerebral cortex. The rhinencephalon and the olfactory pathways. The lobes of the cerebral cortex with relevance to structural features and functional localization. Cortical efferent paths. Blood supply of the nervous system. Index.

Note: (1788) An introductory textbook addressed to medical college students. Although primarily a descriptive treatment, the interrelations between form and function are frequently pointed out. References are made directly in the text to important studies that established specific points of knowledge. The first edition was published in 1942. For this edition the work was extensively reorganized. The separate atlas that appeared at the end of the book has been abandoned, and the material formerly contained in it has been inserted at appropriate places throughout the text. Numerous other changes of pedagogical interest have been made. The final chapter on the blood supply of the nervous system is new. There are now 333 illustrations.

PENFIELD WILDER, AND THEODORE RASMUSSEN

The cerebral cortex of man a clinical study of localization of function. New York The Macmillan Company 1950 248 p illus. 24 cm. $7.00 808

Contents: Historical note and methods. Somatic motor representation of the body. Head and eye movement. Representation of autonomic systems. Vocalization and arrest of speech. Secondary sensory and motor representation. Vision. Hearing and equilibration. Memory, sensory perception, and dreams. Excision of cortical regions. General conclusion. Bibliography. Case index. General index.

Note This book is based on a long series of brain operations carried out under local anesthesia on human beings. It contains mainly the authors' observations and analyses of the results of removing areas of the cortex. The effects of direct stimulation of selected areas of the cortex during the course of operations and postoperative effects observable in patients' behavior are both reported. Also, observations on the play of epileptic discharge in the cerebral cortex are included. In their final chapters the authors draw tentative conclusions which are compared and correlated with the work of other researchers. The 121 illustrations include a number of photographs taken during brain operations.

SCHMIDT CARL FREDERIC

The cerebral circulation in health and disease. Springfield, Illinois Charles C Thomas, 1950 78 p. illus. 22 cm. (American lecture series. Publication no. 68 A monograph in American lectures in physiology edited by Robert F Pitts) $2.25 809

Contents: Introduction. Anatomical considerations. The physiology of the cerebral circulation. The relation of the cerebral circulation to cerebral functional activity. The cerebral circulation of man in health and disease. References

Note: A compact but readable synthesis of the current status of knowledge and research relating to the cerebral circulation. The author points out the contrast between physiological thought in this area up to about 1930 and current knowledge and theories. He shows that the development of new methods, particularly Kety's method for quantitative measurement of cerebral blood flow has completely changed the physiologic picture and greatly extended the valid knowledge. The author describes the modern advances and cites the source articles in which they were first published.

WHITE, JAMES CLARKE, AND OTHERS

The autonomic nervous system anatomy, physiology and surgical application by James C. White, Reginald H. Smithwick and Florindo A. Simeone. Third edition. New York The Macmillan Company 1952 569 p. illus. 24 cm. (Macmillan surgical monographs) $12 00 810

Contents: Foreword, by W. B. Cannon. Introduction. Part I The historical development of knowledge of the involuntary nervous system. Anatomy of the autonomic nervous system. General physiology. Pharmacology of the autonomic nervous system. Physiology of visceral pain. Methods of study. Part II Introduction. The sympathetic nerves in peripheral vascular disease. Extremities: bones, joints, and pain. Head, brain, meninges, and spinal cord. Heart and aorta. Hypertensive cardiovascular disease. The lung. Gastrointestinal tract. Genitourinary tract. Part III Cervical sympathectomies. Thoracic sympathectomies. Abdominal sympathectomies. Periarterial sympathectomy. Paravertebral injection of sympathetic trunk and ganglia. Peripheral sympathectomy by crushing the mixed nerves in the lower extremity. Epilogue. Bibliography. Index.

Note. (2447) Knowledge of the autonomic nervous system is still incomplete, but the available knowledge is collected in this book. The main emphasis is on topics of interest in surgery but *information is included also on physiology, pharmacology, etc.* References are given in the text to the 75-page bibliography; hence, the book can be used as a guide to the literature. The second edition was published in 1941. The book was very extensively rewritten for this edition in order to incorporate the great advances in the knowledge of the subject made during World War II. Literature published since 1941 predominates in the bibliography and most of the text has been rewritten.

HISTOLOGY

COWDRY EDMUND VINCENT

A textbook of histology functional significance of cells and intercellular substances. Fourth edition, thoroughly revised. Illustrated. Philadelphia Lea & Febiger 1950. 640 p. illus. 27 cm. $8.50 811

Contents (abridged) Science of histology. Cells as vital units. Blood, the principal integrator. White blood cells. Red cells and other formed bodies. Bone marrow. Mechanism of circulation: Blood vessels. Heart. Drainage into blood: Lymphatic system. Chemical broadcasting via the blood: Endocrine system. Intake of material and removal of waste: Upper alimentary tract. Lower alimentary tract. Liver. Oxygen intake and carbon dioxide elimination. Respiratory system. Regulation of composition of blood: Urinary system. Rapid integration. Nervous system. Organization and support. Connective system. Movement. Muscular system. Perpetuation of race: Reproductive system. Unification, protection, *adjustment:* Skin. *Microscopic determination of normality.* Bibliography. Index.

Note: (1801) A long-established standard textbook which is used primarily in medical college courses. As the section and chapter titles indicate, the correlation of function and form is stressed. Histology is not covered exhaustively but all of the basic data are included and there is also some unexpected material such as a discussion of sludged blood. The third edition was published in 1944. This edition represents a considerable expansion and some change in organization which has resulted in somewhat less emphasis on the vascular system. There are 337 figures of good quality and a 30 page bibliography

HAM ARTHUR WORTH

Histology 445 figure numbers, including 4 *plates in color Philadelphia J B Lippincott* Company 1950 756 p. illus. (part col d) 28 cm. $10.00 812

Contents (abridged) Part one, What histology is and how it is studied. Part two, Cells, intercellular substances and fluids. Part three, The four primary tissues and their subdivisions: Epithelial

tissue. Connective tissue. Cartilage. Bone. Hemopoietic tissue. Muscular tissue. Nervous tissue. Part four The histology of the systems: The circulatory system. The integumentary system (the skin and its appendages) The digestive system. The respiratory system. The urinary system. The endocrine system. The female reproductive system. The male reproductive system. The system of sensory receptors. The system of articulations. Index.

Note. A textbook for medical college students. The treatment is modern, both in the style of presentation and in the correlation of space allotted to specific groups of diseases and the current clinical interests in them. The text is written in a well-developed style that is easy to comprehend. The illustrations are of high quality. The author is Professor of Anatomy on the Faculties of Medicine and Dentistry of the University of Toronto.

JORDAN HARVEY ERNEST

A textbook of histology Ninth edition. New York Appleton-Century-Crofts, Inc. 1952 687 p. illus 24 cm. $9 00 813

Contents The protoplasm and the cell. Tissues. Connective tissue, cartilage and bone. Muscular tissue. Nervous tissue. Peripheral nerve terminations, end-organs The blood vascular system. Blood. The lymphatic system Mucous membranes and glands. The skin. The respiratory system The digestive system. The urinary system. The reproductive system. The ductless glands, endocrine glands. The nervous system The eye. The ear. List of references. Index.

Note (1952) An established textbook for introductory courses offered to pre-medical and medical students. It is used also as an office reference book by practitioners of medicine. The presentation is from functional point of view with some data from comparative anatomy included. This edition represents fair revision. Advances of recent years including results of tissue culture and electron microscopy have been incorporated. Less essential material is now set in smaller type. There ar new 609 figures. The 11-page bibliography contains few references to recent material, but it consists mainly of publications issued before 1934

MAXIMOW ALEXANDER A., AND WILLIAM BLOOM

A textbook of histology Sixth edition With 986 illustrations 257 in color on 580 figures. Philadelphia W B Saunders Company 1952 616 p. illus (part col d) 26 cm. $10 00. 814

Contents Introduction. Epithelium. Blood. The connective tissue proper Blood cell formation and destruction. Cartilage. Bone. Muscular tissue The nervous tissue. The blood vascular system. The lymphatic system The spleen Thymus. Glands. Hypophysis. Thyroid gland. Parathyroid glands. Adrenal glands and paraganglia. The pineal body The skin. The oral cavity and associated structures. The teeth Esophagus and stomach. The intestines. The liver, bile ducts and gallbladder Pancreas. The respiratory system. Urinary system Male genital system. Female genital system. The mammary gland The eye The ear. Index.

Note (1952) The sixth edition of this standard and encyclopedic textbook of histology for medical students has been considerably revised from the fifth edition of 1948, but the intent of the authors remains the same as when the first edition was published in 1930, namely to present morphological and functional description of all the cells and tissues of the human body with as full details as possible both in text and in illustration. For this edition large sections of the book were rewritten by Professors W Bloom, P P H. DeBruyn, W L Doyle and I Gersh. Important changes include new introductory chapter correlating the submicroscopic, biochemical and enzymatic constitution of cells with their structure and function as determined with the optical microscope; new descriptions of the endocrine glands and the shortening of several chapters without deletion of essential material. New illustrative material of outstanding quality including four new colored plates, seventeen photomicrographs in color and forty six other new photomicrographs, also adds to the value of the sixth edition. The bibliographical references have been revised to include many of later date than 1948.

NONIDEZ JOSÉ FERNANDEZ AND WILLIAM F WINDLE

Textbook of histology New York Mc Graw Hill Book Company Inc., 1949 456 p. illus. 24 cm. $6 75 815

Contents: Tissues and methods for their study Cells, living components of tissues. Epithelium. Blood. Bone marrow and hemopoiesis. Connective tissue. Cartilage, bone, and joints. Muscular tissue. Heart. Blood vessels and lymphatics. Lymphatic tissue and organs. Nervous tissue and the peripheral nervous system. Brain and spinal cord. Membranes of the brain and other organs. Visual and auditory organs. Integument. Mouth and pharynx. Tubular digestive organs. Liver and pancreas. Endocrine organs. Respiratory organs. Excretory organs. Male reproductory organs. Female reproductory organs. Mammary glands. Appendix. Units of measurements used in histology Bibliography Visual aids. Index.

Note This introduction to histology is briefer than most of the long-established textbooks in the field. Nevertheless, it contains material on not only the major tissues but also on the specialized tissues of various organs. The 263 illustrations include nearly 200 original and remarkable photomicrographs.

EMBRYOLOGY

HOOKER, DAVENPORT

The prenatal origin of behavior Porter lectures series 18 Lawrence, Kansas University of Kansas Press 1952 143 p illus. 22 cm. (Physiological and morphological studies on human prenatal development. Publication no. 20) $2 50. 816

Contents: Fetal activity in infrahuman vertebrates. The sequence in human fetal activity The significance of structural and functional interrelationships in prenatal activity Notes. Acknowledgments. Reference list. Index of names. Subject index.

Note: In the three lectures printed in this book the author, who is Chairman of the Department of Anatomy of the School of Medicine of the University of Pittsburgh, outlines what is known about the reflex actions and other activity of embryos and fetuses. The first two lectures are devoted chiefly to the responses elicited by definite stimuli such as stroking. In the third lecture the author has covered interrelationships among such organ systems as the circulatory system, nervous system, and endocrine glands. Some descriptions of the research methods by which the information has been obtained have been included. There is 14-page bibliography

NATIONAL RESEARCH COUNCIL. COMMITTEE ON HUMAN REPRODUCTION

Studies on testis and ovary eggs and sperm. *Proceedings of a conference sponsored* by the Committee on Human Reproduction, National Research Council, in behalf of the National Committee on Maternal Health, Inc. Edited by Earl T Engle. Springfield Illinois Charles C Thomas, 1952 237 p. illus. 24 cm. $7 75 817

Contents Spermatogenesis in testes of men with blocked or absent efferent ducts, by W O. Nelson. Cytochemistry of human spermatogenesis, by H. Klitman. The Sertoli cell, by W W Scott and K. M Lynch, jr. Semen quality in fertile marriage, by J. MacLeod. The metabolic machinery of sperm activity by D. W Bishop. The metabolic regulator in mammalian spermatozoa, by H. A. Lardy New aspects of the relationship between the metabolism and motility of human spermatozoa, by J MacLeod. The morphological basis of ovarian function, by H. C. Taylor Jr., and others. Absorbic acid, new estrogen, by R. Courrier Investigations into the transport of the ovum, by A. Westman. A cytochemical study of lipids in the oocytes of the rat and sow during the estrous cycle, by H. W Deane and W L. Barker The embryonic nature of the adult ovary by H. W Mossman. Seed-sterility at the mouse caused by radiation induced chromosome changes, by G. D. Snell. Genetically determined variations in male fertility in the house mouse, by L. C. Dunn. List of members of the Conference.

Note: A collection of original papers based chiefly on investigations made in recent years. Each paper is supplemented by excerpts from the discussion at the conference and, in most instances, by illustrations, tables, and literature references.

PHYSIOLOGY

GENERAL

ALTSCHULE, M D

Physiology in diseases of the heart and lungs. Cambridge, Mass. Harvard University Press, 1950. 368 p. 22 cm. (Harvard University monographs in medicine and public health, editorial committee A. Baird Hastings and others. Num 10) $5 50 818

Contents: Chronic cardiac decompensation. Acute pulmonary edema—cardiac asthma. Angina pectoris—myocardial infarction. Cardiac arrhythmias. Pericarditis. Congenital and acquired cardiac defects. Pulmonary fibrosis. Chronic pulmonary emphysema. Bronchial asthma. Pleural effusion. Pneumothorax. Pneumonia. Index.

Note: A critical review of published physiologic studies which have bearing on the diseases of the heart and lungs in man. It is organized in short sections and is compactly written. Each of the sections is followed by comprehensive bibliography. The book is designed for the information of upperclass undergraduate students in medical schools. However, it is used also by medical practitioners, graduate physiologists, etc., in need of synopsis and literature guide. The author is member of the faculty of Harvard Medical School.

ANNUAL REVIEW OF PHYSIOLOGY Volume 14 Victor E. Hall, editor, Jefferson M Crismon associate editor, Arthur C. Giese, associate editor Stanford University California Annual Reviews, Inc., and the American Physiological Society 1952 589 p. 23 cm. $6.00 819

Contents: Prefatory chapter (the organization of science) by R. W Gerard. Physical properties of protoplasm, by D F Waugh. Growth, by L. J. Wells. Physiology of the connective tissue, by C. Ragan. Physiological effects of heat and cold, by S. Robinson. Energy metabolism of biosynthesis at the cellular level, by S. Spiegelman and M. Sussman. Water metabolism, by J. R. Robinson and R. A. McCance. Respiratory system, by J. L. Whittenberger and J. V Maloney jr. Comparative physiology of invertebrate muscle, by C. A. G. Wiersma. Physiology of the digestive system, by C. M. Wilhelmj. Fundamentals of blood clotting, by J. E. Flynn and R. W Coon. Blood gas transport, by E. H. Wood. Peripheral circulation, by J. R. Pappenheimer. Heart, by G. Burch. Lymphatic system, by R. L. Webb. Kidney by A. C. Corcoran and others. Excitation, conduction and synaptic transmission in the nervous system, by C. McC. Brooks and M. G. F Fuortes. Somatic function of the central nervous system, by M. Hines. Visceral functions of the nervous system, by A. Kuntz. Hearing, by B. E. Gernandt. Pituitary adrenal system, by J. W Conn and S. S. Fajans. Thyroid gland, by A. Albert. Reproduction, by C. G. Hartman. Physiology of the skin, by E. M. Farber and W C. Lobitz, jr. Indexes.

Note: (700°) The current volume of this standard review contains the papers noted above. Each of the papers, except the first, is essentially [illegible] of the recent literature pertinent to the topic named in its title and is accompanied by bibliography of that literature. The papers are addressed to graduate physiologists and to scientists in related fields and are [illegible] scholarly worker in one area can keep abreast of developments in tangential areas. Since the names of the authors of cited literature are included in the author index the book can be used also as literature guide. Most of the summaries and the accompanying bibliographies are international in scope.

BARRON ELEAZAR S GUZMAN editor

Modern trends in physiology and biochemistry Woods Hole lectures dedicated to the memory of Leonor Michaelis. New York Academic Press Inc., 1952 538 p. illus. 24 cm. $8.50 820

Contents: The mechanism of enzymatic oxidation-reductions, by E. S. Guzman Barron. The identification of enzyme-substrate compounds, by B. Chance. The cytoplasm, its structure and role in metabolism, growth, and differentiation, by J. Runnström. Physiology of the cell nucleus, by D Mazia. The physiology of cell division, by L. V Heilbrunn. Molecular anatomy of the red cell plasma membrane, by A. K. Parpart and R. Ballentine. The measurement of cell permeability with particular reference to the erythrocyte, by M. H. Jacobs. The sodium and potassium balance of muscle and nerve, by H. B. Steinbach. Mechanisms and properties of bioelectric-potentials, by H. Grundfest. Chemical mechanisms of nerve activity by D. Nachmansohn. Transmission processes at nerve-muscle junctions, by S. W Kuffler. On ultrastructure and function in nerve, nonelectrical, physical aspects of excitation and conduction, as deduced primarily from polarization experiments, by J. M. Tobias. Problems in the comparative physiology of nervous systems, by C. L. Prosser. Biochemical evolution, by G. Wald. Thermodynamics and muscle, by A. Szent-Györgyi. Studies on the contractile protein system of muscle, by W F H. M. Mommaerts. On the mechanism of drug action, by O. Loewi. Some metal complexes with proteins and other large molecules, by I. M. Klotz. Some considerations of the chemical structure and biological activity of chymotrypsin, by H. Neurath. The oxidative pathways of carbohydrate metabolism, by E. S. Guzman Barron. Author index. Subject index.

Note. Lectures delivered in the Physiology Course of 1950 at the Marine Biological Laboratory Woods Hole, Massachusetts are collected in this volume. The typical lecture is concise, critical digest of the current knowledge of the topic named in its title, supplemented by an extensive bibliography. In some instances the results of recent and hitherto unpublished literature are included. The papers are addressed to graduate scientists concerned with research in biology especially the area of biology sometimes called molecular biology

BEST, CHARLES HERBERT, AND NORMAN BURKE TAYLOR

The physiological basis of medical practice a text in applied physiology Fifth edition. Baltimore The Williams & Wilkins Company 1950. 1330 p illus. (part col'd) 26 cm. $11.00 821

Contents (abridged) Section I, The blood and lymph The physiological properties, physical characters and composition of blood. The lymph and tissue fluids. Transfusion—the blood groups. The spleen—the life of the red cell—the regeneration of blood. The anemias. The mechanisms regulating the reaction of the body fluids. Section II, The circulation of the blood: The dynamics of the circulation. The arterial blood pressure. The physiology of cardiac muscle. The origin and mode of transmission of the heart beat. The architecture of the heart. Electrocardiography The output of the heart. Special features of the circulation in different regions. Section III, Respiration The physical principles governing the respiratory exchanges. The transport and delivery of oxygen to the tissues. The carriage of carbon dioxide by the blood. Anoxia. Section IV The excretion of urine: Urine formation—the structure of the kidney—theories of renal function—volume and composition of the urine. The pathological physiology of kidney disease. Section [illegible] Digestion: The salivary glands and the secretion of saliva. Gastric digestion. Digestion in the intestine. The movements of the alimentary canal. Section VI, Metabolism and nutrition General metabolism. Protein metabolism. Carbohydrate metabolism. The metabolism in starvation (fasting), obesity and undernutrition. The vitamins. Section VII, The ductless glands or endocrines. Section VIII, The nervous system The physiological properties of nerve. Reflex action. The spinal cord and brain stem (medulla, pons and mid brain) The cerebral cortex. The cerebellum. The autonomic nervous system. Section IX, The special senses: The physiology of vision. The dioptric mechanisms of the eye. The ear. The chemical senses. References. Index.

Note: (711) An almost encyclopedic treatment of physiological and biochemical principles and techniques from the standpoint of their application to clinical medicine. It is designed for students and practitioners of medicine rather than for chemists or physiologists, and its primary purpose is to encourage the correlation of clinical practice with the underlying physiological knowledge. In this edition it has again been extensively revised. The number of pages has increased by 160. The revisions are scattered throughout the work wherever advances in knowledge have made them necessary. The number of figures is now 401 of which about 100 are new

CANNON WALTER BRADFORD, AND ARTURO ROSENBLUETH

The supersensitivity of denervated structures a law of denervation. New York The Macmillan Company 1949 245 p illus. 21 cm. (Experimental biology monographs) $6 50 822

Contents: Part I, Introduction Historical development of the concept. Supersensitivity—definitions and examples. Part II, Supersensitivity to chemical agents: Smooth muscle—sympathetic stimulation—sympathetic inhibition—parasympathetic stimulation and inhibition. Melanophores. Glands. The heart. Striated muscle. Sympathetic ganglia. Spinal neurons. Coordinating centers. Part III, Supersensitivity to nerve impulses: Smooth muscle. Submaxillary gland. Adrenal medulla. Sympathetic ganglia. Striated muscle. Spinal neurons. Part IV Possibly related phenomena. The spontaneous activity of denervated structures. The crossed phrenic phenomenon. The deficiency of the discharges of the cut phrenic. Part Theories and implications. A law of denervation. Theories of sensitization—the determinism—the mechanism. Some implications of the law of denervation. References. Author index. Subject index.

Note. A monograph on the physiological phenomenon of increased sensitivity to adrenaline and certain other chemicals that is exhibited by muscles and glands which have been denervated. Both the experimental results obtained by the authors in their investigations and the results of other research workers have been incorporated. The different types of supersensitivity are described, and the clinical and pharmacological implications of vicarious chemical control are pointed out. The book is of fundamental interest in several areas of experimental biology and medicine. The list of references is twenty pages in length.

FULTON, JOHN FARQUHAR

Physiology of the nervous system. Third edition revised. New York Oxford University Press, 1949 667 p. illus. 22 cm. $10.00 823

Contents (abridged) The receptors. Dorsal spinal nerve roots and the dermatomes. The motor unit. Synapses and elementary reflexes. Central inhibition. The spinal cord—flexion reflex—extension reflexes—intersegmental reflexes—spinal man. The medulla oblongata—decerebrate rigidity The medulla oblongata and midbrain—postural reflexes. The pons and midbrain—optic reflexes. Autonomic nervous system. The hypothalamus and the autonomic nervous system. The thalamus. Cerebral cortex—architecture, intracortical connections, motor projections—the olfactory system—the occipital lobes and visual system—the temporal lobes—the parietal lobes and somatic sensation—the motor areas and pyramidal system—extrapyramidal and intracortical projections—the orbitofrontal and cingulate regions—autonomic representation in precentral motor cortex. The extrapyramidal motor system—basal ganglia and reticular formation. The cerebellum. The nervous system as whole—the conditioned reflex. Bibliography and author index Subject index

Note. (1893) A standard, well know textbook in which neurophysiology is presented from the experimental standpoint. It is designed primarily for medical students with interests in clinical medicine. The third edition is about 50 pages longer than the second edition published in 1943 There are numerous changes and the chapter on the orbitofrontal and cingulate regions of the cerebral cortex has been completely rewritten. The extensive bibliography includes both papers cited in the text and other important contributions published since 1943 and is supplementary to the bibliography in the author's *Muscular contraction* 1926.

GRAY JOHN STEPHEN

Pulmonary ventilation and its physiological regulation. Springfield, Illinois Charles C Thomas, 1950 82 p. illus 22 cm. (American lecture series. Publication no 63 A monograph in American lectures in physiology edited by Robert F Pitts) $2.50 824

Contents: The control of the respiratory cycle. Theories of the control of ventilation. The receptor system. Interrelationships between chemical stimuli. Respiratory responses to chemical stimuli. The integrated regulation of ventilation. Dissociation and unsteady states. Sensitivity and CO_2 adaptation. References.

Note. This short book is description of the complex mechanism which regulates the volume of air breathed by the lungs and survey of the current state of the knowledge of how this system functions. The various pertinent theories are critically evaluated and gaps in the basic physiological knowledge are pointed out. The book is primarily of interest to physiologists, but it has applications also in such fields as military and naval medicine. There is bibliography of 43 citations.

HAMILTON, WILLIAM FERGUSON

Textbook of human physiology With 139 illustrations. Second edition. Philadelphia F A. Davis Company 1949 625 p. illus. 24 cm. $7.00 825

Contents (abridged) The process of excitation. The organization of reflex pathways. Afferent pathways in man. The efferent pathways General functions of the central nervous system. General function of receptors. Cutaneous sensibility and pain. The sensations of taste and smell. Posture and equilibrium. Hearing. Refraction and vision. Hunger thirst, libido, and the conscious interpretation of sensation. The ventilation of the lungs. Respiratory functions of the blood. Abnormalities in respiration. The blood. The pumping action of the heart. The action currents of the heart. Arterial pressure pulses. Measurement and regulation of the circulation rate. The regulation of the mean blood pressure. Congestive failure of the circulation. Congenital heart disease. The digestive movements. Digestive absorption and secretion. The fluids of the body The functions of the kidney Metabolism. The endocrine system. Index.

Note. This book is the result of planned effort on the part of the author to produce shorter and simpler treatment of the main physiological processes than is available in the traditional comprehensive and detailed type of textbook. The typical chapter is an outline in which only the main facts are stated, but the discussion is supplemented by selected list of references to lengthier treatments. Illustrations are fewer than in the traditional large type of text and there are no colored ones. The book is well adapted to use in introductory courses where simple text is desired and to extracurricular reading by scientists in other fields than physiology who find themselves in need of survey of physiology. The author is Professor of Physiology in the School of Medicine of the University of Georgia.

HOSKINS ROY GRAHAM

Endocrinology the glands and their functions. Revised & enlarged edition. New York W W Norton & Company Inc., 1950. 402 p. illus. 22 cm. $5.50 826

Contents: Hormones—the chemical regulators. The adrenal glands. The thyroid gland. The parathyroid glands. The hypophysis or pituitary gland. The male sex glands—the testes. The female sex glands—the ovaries. The placenta as an endocrine organ. The pineal gland. The thymus gland. Endocrine aspects of reproduction. Hormone regulation of the digestive functions. Insulin and diabetes. Some general aspects of endocrinology Endocrinology of the future. The endocrine literature. Index.

Note. (1878) An authoritative, semi-technical presentation designed for such readers as psychologists, sociologists, and laymen who have some familiarity with scientific terminology. The first edition appeared in 1941. In this edition the text has been revised at various points to incorporate advances since that year and additional literature citations have been added to the reference lists and general bibliography

JONES HAROLD ELLIS

Motor performance and growth a developmental study of static dynamometric strength. Berkeley and Los Angeles University of California Press 1949 181 p. illus. 24 cm. $3 00 827

Contents: The program of measurement. Factors related to strength. Growth in strength. Strength and physiological maturity. The influence of strength on growth. Some incidental findings. Individual case studies. Implications and conclusions. Bibliography

Note: The results of a seven-year study of the development of muscular strength in adolescent boys and girls of school age are presented in this work. The number of subjects was 183 (93 boys and 90 girls) at the beginning of the study and it decreased to 139 six and one-half years later when the investigation was concluded. Measurements of body growth in the same group were made coincidentally and are co-ordinated with the development of strength. Observations were made and are analyzed on relationships among growth, strength, and personality characteristics.

LEE, DOUGLAS HARRY KEDGWIN

The physiology of tissues and organs. Springfield Illinois Charles C Thomas, 1950 159 p. illus. 23 cm. $4.00. 828

Contents (abridged): Part I, Physiology of tissues. Chemical factors in living processes. Physical factors in living processes. Cell multiplication and differentiation. Nervous tissue. Muscular tissue. Epithelial tissues. Connective tissue, cartilage and bone. Blood. Endothelial tissues and the fibroblastic reaction. Part II, Physiology of organs: Absorptive organs. Transformer organs. Storage organs. Mechanical effector organs. Chemical effector organs. Excretory organs. Organs of special sensation. Organs of reproduction. Embryo, considered as an organ. Conclusion.

Note: Essentially an outline of the physiological functions of specific tissues and tissue systems. Not only are the chapters short but the style is very concise. Nevertheless, the fundamentals of physiology are well presented. The book is suitable for use in instruction, or review for examinations and also as a means of quick reference in both personal and institutional libraries. The first edition was published in Australia and was designed for use by students in the University of Queensland. The author is now a member of the faculty of the Johns Hopkins University

MILBANK MEMORIAL FUND

The biology of mental health and disease. The twenty seventh annual conference of the Milbank Memorial Fund. With 108 contributors. Foreword by Stanley Cobb New York Paul B Hoeber Inc. Medical Books Department of Harper & Brothers, 1952 654 p illus. 24 cm. $10.00. 829

Contents: Histologic development of the cerebral cortex, by J. LeRoy Conel and E. H. Craigie. Chemical constituents of brain during development and in maturity, by J. Folch-Pi and W. M. Sperry. Cerebral circulation and metabolism, by S. S. Kety and H. G. Wolff. Blood-brain barrier, by R. D. Tschirgi and others. Brain tissue respiration and glycolysis, by K. A. C. Elliott and E. Racker. Oxidation and reduction in brain tissue, by E. G. Ball and F. Lipmann. Carbohydrate metabolism in brain tissue, by O. Meyerhof and S. Ochoa. Nitrogen metabolism in the brain, by H. R. Waelsch and D. Rittenberg. Lipid metabolism of the brain, by W. M. Sperry. Inorganic metabolism of the brain, by J. F. Manery. Electrical manifestations of action in neurons, by D. P. Lloyd and others. Role of quaternary compounds in neural activity, by J. L. Lilienthal, Jr., and W. S. McCulloch. Physiologic development of the cortex of the brain and its relationship to its morphology, chemical constitution, and enzyme systems, by L. K. Flexner and others. Patterns of localization in sensory and motor areas of the cerebral cortex, by C. N. Woolsey and others. Electrical activity and mechanisms of cerebral integration, by H. H. Jasper and M. A. B. Brazier. Functional organization of the brain in relation to mentation and behavior, by H. F. Harlow and others. Endocrine influences on personality and behavior, by R. A. Cleghorn and others. Genetics and normal mental differences, by R. R. Gates and J. V. Neel. Genetic aspects of psychoses, by F. J. Kallmann and others. Mental disorders arising from organic disease, by W. L. Bruetsch and T. Lidz. Anoxia—its effect on structure of the brain, by W. F. Windle. Anoxia—its effects on the physiology and biochemistry of the brain and on behavior, by R. A. McFarland and others. Effects of drugs on metabolism and physiologic activity of brain, by J. H. Quastel and others. Biologic implications of senescence, by T. H. Ingalls and C. K. Rennie. Mental deficiency and aberrant metabolism, by G. A. Jervis and H. B. Waelsch. Metabolic and physiologic disturbances in the psychoses, by H. Hoagland and others. Enzymatic changes in mental diseases, by A. Pope and W. M. Ashby. Histopathology of schizophrenia and other psychoses of unknown origin, by A. Wolf and others. Experimental induction of psychoneuroses by conditioned reflex with stress, by H. S. Liddell and W. H. Gantt. Experimental induction of psychoneuroses by starvation, by A. Keys and others. Experimental induction of psychoneuroses through restriction of intake of thiamine, by R. M. Wilder. Experimental induction of psychoses, by P. H. Hoch and H. C. Solomon. Effect of shock therapies on the brain, by H. E. Himwich and others. Use of carbon dioxide in dementia praecox, by W. F. Lorenz and others. Narcosis therapy in psychotic states, by H. Lehmann and L. J. Thompson. Effect of corticosteroids in experimental psychoneuroses, by H. S. Liddell and H. Selye. Results from the use of ACTH and cortisone in psychoses, by E. F. Gildea and others. A final glance at the symposium, by R. W. Gerard. Index.

Note. A notable volume in which has been collected the original papers presented at the conference named in the title. These papers represent a planned symposium on the contemporary knowledge of the biological aspects of brain function and dysfunction. The contributors were purposely drawn from all related fields of science. To quote the Foreword "The list of participants included anatomists, physiologists, geneticists, chemists, neuropathologists, neurologists, neurosurgeons, psychologists and psychiatrists. ... They came from sixteen states of the United States and three foreign countries." As printed in the book, the papers are supplemented by illustrations, literature references, and transcripts of discussion.

MOMMAERTS, W F H. M.

Muscular contraction a topic in molecular physiology New York Interscience Publishers, Inc. 1950. 191 p. illus. 24 cm. (Monographs in the physiological sciences Editorial board Maurice B Visscher and others) $5.00 830

Contents: Introduction. An outline of the metabolism of muscle. A quantitative picture of muscle metabolism. The sequence of events in muscular activity. The muscle proteins. Myosin, actin and actomyosin. Myosin and adenosinetriphosphatase. The structure of the muscle fibril—the myosin thread. Contractile threads and fibrils. Crystalline myosin. Actin—the second structure protein. Actomyosin—the myosin-actin complex. Molecular sizes and shapes of muscle proteins. Viscosity and birefringence of flow. Reaction between ATP and myosin. Problems and interpretations. Bibliography. Index.

Note. A condensed review of present-day knowledge regarding the biochemical mechanisms of muscular contraction. It is based on a survey of the literature of the subject and draws heavily on the writings of Banga, Dubuisson, Meyerhof, Szent-Györgyi, and other workers in the field. Throughout the book emphasis is on experimental methods and discoveries rather than on theory. The text is keyed to the bibliography consisting of 334 references.

PROSSER, CLIFFORD LADD editor

Comparative animal physiology By David W Bishop Frank A. Brown Jr., Theodore L. Jahn C Ladd Prosser and Verner J Wulff. Philadelphia W B Saunders Company 1950 888 p. illus. 24 cm. $13 00. 831

Contents: Introduction. Water. Inorganic ions. Protein specificity. Nutrition. Feeding and digestion. Nitrogen excretion. Respiration and metabolism. Respiratory functions of body fluids. Temperature: metabolic aspects and perception. Photoreception. Chemoreception. Phonoreception. Mechano- and equilibrium-reception. Circulation of body fluids. Muscle and electric organs. Amoeboid movement. Cilia. Trichocysts and nematocysts. Bioluminescence. Chromatophores and color change. Endocrine mechanisms. Nervous systems. Index.

Note. This book is both a textbook and a manual of reference. When used as a textbook it is suitable for upperclass undergraduate college students and first year graduate students. Its usefulness as a reference book derives from its relatively full discussions of specific topics and its lengthy bibliographies. The reference value is enhanced by numbered cross-references from statements in the text to the bibliographies. Although the material is arranged by function and organ systems, the index includes the names of animals, for example, Echinoderms. Thus the book can be used as a guide to the more facts and the literature pertinent to physiological functions in specific animals.

REYNOLDS SAMUEL ROBERT MEANS

Physiology of the uterus. Second edition revised and enlarged. New York Paul B. Hoeber Inc., 1949 611 p. illus. 26 cm. $12.50. 832

Contents (abridged) Part I, Patterns and functions of uterine motility: Morphology Tubal and uterine movements during the estrous cycle. Human tokography—nongravid uterus. Part II, Hormone control of the myometrium. Activation of the myometrium. Maintenance of gestation. Steroid hormones during pregnancy Hormones in the control of parturition. Physical factors in uterine contractility. Physiologic basis of myometrial therapy Part III, Uterine growth Growth of the nondistended uterus. Growth of the distended uterus. Factors in abnormal uterine growth. Patterns of uterine growth during pregnancy Structural changes and uterine enlargement. Myometrial forces in relation to uterine growth and parturition. Part IV, Circulation in the uterus: Vasculature of the uterus. Circulation of blood in the nonpregnant uterus. Lymphatic vessels of the uterus. Somatic vascular effects of steroid hormones. Menstruation. Uterine vascular adaptations to pregnancy The fetal circulation and its control. Part Metabolism in the uterus. Part VI, Innervation of the uterus. Part VII, Utero-somatic relationships: Effects of hysterectomy Endocrine, vascular and central nervous system relationships. Bibliography Part VIII, The onset of labor Bibliography Author index. Subject index.

Note. A well organized and critical survey of the accumulated knowledge of the physiology of the uterus. Although there is some emphasis on the human uterus, pertinent knowledge has been gathered from all fields of physiology and especially from animal experimentation. Each of the sections is essentially digest of literature with numbered references from statements in the text to the bibliography The total number of references in the bibliography is approximately 2100. The number of cited papers which describe experiments and observations on such animals as the rat, the rabbit, and the guinea pig exceeds by considerable margin the number of papers listed on human beings. The first edition appeared in 1939 For this edition the work was reorganized and much new material added. Most of the illustrations in this edition are new

RIEDMAN, SARAH REGAL

The physiology of work and play a text book in muscular activity Original illustrations by Ida Scheib. New York The Dryden Press 1950 584 p illus. 21 cm. (The Dryden Press publications in the biological sciences general editor L. V Heilbrunn) $5.50 833

Contents (abridged) Part I, The physiology of motion: Contraction in excised muscles. The structural bases of voluntary motion. Intrinsic properties of muscle. The chemical basis of motion. Chemical dynamics in muscular work. Muscles as work machines. Fatigue. Coordination of motion and of adjustments to exercise. Part II, Organic adjustments to the needs of exercise Circulatory adjustments in exercise. Cardiac response to exercise The heart as work organ. Respiration. Pulmonary ventilation. Transport of oxygen and carbon dioxide. Respiratory regulation. Part IV Adaptations to special conditions of work Work under limiting environmental conditions. Work under extremes of temperature and humidity Work under conditions of modern industry Part The adaptive capacity of the organism Bodily changes during regular adaptational adjustments. Convalescence and reconditioning. Physical fitness. Effects of mental and emotional activity Index.

Note. Although this book is intended as an introduction especially for the instruction of such students as physical education majors, it contains rather detailed treatment. Such topics as the buffer systems of the blood and blood changes during muscular activity are discussed in chemical terms. Furthermore, each chapter is supplemented by bibliography of pertinent technical literature. The book contains enough detailed technical information to make it useful for reference or reading by scientifically trained persons in need of survey of the physiology of physical activity The author is member of the faculty of Brooklyn College.

ROSENBLUETH ARTURO

The transmission of nerve impulses at neuroeffector junctions and peripheral synapses. New York Published jointly by the Technology Press of Massachusetts Institute of Technology and John Wiley and Sons, Inc., 1950 325 p illus 24 cm. $6 00 834

Contents Introduction. Part I. Transmission at autonomic neuroeffector junctions Adrenergic and cholinergic nerves. The liberation of acetylcholine by stimulation of some autonomic postganglionic fibers. The liberation of sympathin by stimulation of autonomic postganglionic fibers. The theory of two sympathins, excitatory and inhibitory The distribution of cholinergic and adrenergic nerves in the organism. The generalized effects of the chemical mediators liberated in physiological conditions. The electric responses of smooth muscle. The mode of action of the chemical mediators. Some physiological properties of smooth muscles. Theories of transmission in autonomic neuroeffector systems. Part 2, Transmission at peripheral synapses. The stages of neuromuscular and of ganglionic synaptic transmission. The liberation of acetylcholine by presynaptic nerve impulses. The action of acetylcholine on striated muscle and on ganglion cells. The action of eserine, prostigmine, and diisopropyl fluorophosphate. Curare and some decurarizing agents. Wedensky inhibition. The failure of synaptic transmission in the course of Wallerian degeneration of the presynaptic nerve. The Philippeaux-Vulpian and allied phenomena. Post-tetanic effects. The action of potassium ions. The electrical excitability of striated muscle. The electric responses of striated muscle. The electric responses of autonomic ganglia. A comparison of synaptic transmission at autonomic ganglia and at somatic neuromuscular junctions. The electrical theory of synaptic transmission. The chemical theory of synaptic transmission by acetylcholine. Alternative theories of synaptic transmission. *References.* Author index. Subject index.

Note. (1891) This well-documented publication for neurophysiologists presents in systematic form an explanation of chemical transmission at the junctions of motor nerves with striated muscles and at the synapses in autonomic ganglia. The properties are discussed of the junctions between excitable effector elements; one of the central problems considered is precisely whether the processes that take place at these junctions differ qualitatively from those that occur in the course of the propagation of nerve impulses. The bibliography runs to 720 references. The work brings up to date but does not entirely supersede *Autonomic neuro-effector systems* by Walter B. Cannon and Arturo Rosenblueth, New York, 1937

SODEMAN WILLIAM A., editor

Pathologic physiology mechanisms of disease. Philadelphia W B Saunders Company, 1950 808 p. illus. 25 cm. $11.50 835

Contents: Part I, Circulatory system: Hemodynamics—the blood vessels, by W A. Sodeman. Dynamics and circulation of heart muscle—cardiac reserve—and the cardiac cycle, by J. T Roberts. The electrocardiogram, by F D. Johnston. Cardiac output—hypertrophy and dilatation—valvular diseases—congenital defects—pericardial diseases—extracardiac factors, by E. Hull Cardiac failure and function tests, by J R. Le Duc. Part II, Respiratory system: Pulmonary ventilation and respiration—tests of respiratory function, by J. H. Seabury Protective mechanisms of the lungs—pulmonary disease, by H. L. Alexander Part III, Digestive system The esophagus, by W L. Palmer and J B. Kirsner. The stomach, by W L. Palmer and J B. Kirsner The small intestine, by L. Schiff. The large intestine, by L. Schiff. The liver by F J. Ingelfinger. The gallbladder and pancreas, by R. Elman. Part IV Blood and spleen: Disorders of the blood, by W B. Castle The spleen and reticulo-endothelial system, by C. A. Doan. Part Urinary tract: The kidney by A. C. Corcoran and I. H. Page. Part VI, Endocrine glands—water balance—nutrition Endocrine glands, by E. C. Reifenstein, Jr. Water balance, by R. L. Pullen and R. F Kampmeier Nutrition, by W A. Sodeman. Part VII, Locomotor system The joints, by R. H. Freyberg. Part VIII, Infectious diseases—allergy: Factors affecting infections, by G. T Harrell, Jr. Effects of infection, by G. T. Harrell, Jr. Recovery from infection, by G. T Harrell, Jr Alteration of the course of an infection, by G. T Harrell, Jr. Allergy by R. A. Cooke and W B. Sherman. Part IX, Physical, toxic and chemical agents: Physical and toxic agents, by W Bean. Chemical agents and disease, by J H. Foulger Index.

Note A treatise composed of chapters written specifically for this work by twenty-five authors, the majority of whom are members of the faculties of medical colleges in the United States of America. The purpose of the work is to interpret the clinical manifestations of disease in terms of dysfunction of basic physiological processes. In most of the chapters the first few pages are devoted to descriptions of the pertinent physiological processes, these are followed by compact discussions of disease. Extensive lists of references accompany most of the chapters. There are 146 figures.

WIGGERS CARL JOHN

Physiology in health and disease. Fifth edition, thoroughly revised. Illustrated with 279 engravings. Philadelphia Lea & Febiger, 1949 1242 p. illus. 24 cm. $10 00. 836

Contents (abridged) Section I, Muscular contraction and associated phenomena: Physiology of skeletal muscle Functions of cardiac and smooth muscle Bioenergetics. Bioelectric phenomena. Section II, [illegible] The physiology of the peripheral and central nervous systems Physiology of [illegible]. Physiological purposes of reflex actions and

their disturbances in disease. Control of voluntary and involuntary movements. Somatic sensibilities and their disturbances. Special sensibilities. Associative functions of the cerebral cortex. The physiological basis for psychosomatic reactions. Section III, The blood. Section IV Respiration; Respiratory movements and mechanics of lung inflation. Interchange of gases in the lungs and tissues and their transportation by the blood. Clinical disturbances of respiration. Aviation physiology. Section V Heart and circulation. Excitation of the mammalian heart and its nervous control. Electrocardiography. Hemodynamic principles. Nervous and chemical control of blood pressure. Dynamics of the heart beat. Hypertension. The pulmonary circulation. Coronary circulation. Dynamics of valvular lesions. Hemorrhage and shock. Section VI, Physiology of the alimentary tract. Section VII, Metabolism and nutrition. Digestion, absorption, and metabolism. The material and energy balances of the body. Hyperthermia and hypothermia. Vitamins in nutrition. Section VIII, Excretion and body fluids. Section IX, Endocrine organs: Humoral control of functions by hormones. Pituitary hormones and disorders. Diabetes, insulin, and other hormones. Hormones of the adrenal medulla and cortex. The thyroid gland and its hormone. Sexual functions and their hormonal control. Physiology of pregnancy, labor and lactation. Index.

Note: (1810h) A standard textbook of the medical type. Its special purpose is to correlate physiology and clinical medicine for medical students, clinicians, and investigators in both medicine and physiology. A wide range of information is presented rather concisely with citations of fuller discussions in published books and papers. There is some emphasis on physiological experiments which demonstrate normal reactions. This edition represents an extensive revision with much of the text rewritten, 60 new illustrations, and approximately 1000 new literature references.

WINSLOW, CHARLES-EDWARD AMORY AND L. P HERRINGTON

Temperature and human life. Princeton, New Jersey Princeton University Press, 1949 272 p. illus. 23 cm. $3.50 837

Contents: Production of heat in the life process. Avenues of heat loss from the body. The adaptations of the human body to varying thermal conditions. The thermal protective influence of clothing. The objectives of air conditioning. Methods of air conditioning. The influence of climate and season upon health. Glossary. References. Index.

Note. An inclusive presentation of current knowledge pertaining to the effects of temperature and related environmental conditions on life processes in human beings. Although it is based on an extensive literature survey and is written mainly from the physiological viewpoint, it is easy to read. This quality makes it a suitable book for such readers as medical practitioners, heating and ventilating engineers, and persons concerned with the design of military clothing. Biologists and physiologists in need of a reliable, well-documented survey of the subject will also find it useful.

YOUMANS, WILLIAM BARTON

Basic medical physiology Chicago The Year Book Publishers Inc. 1952 436 p. illus. 24 cm. $7.00 838

Contents (abridged) Section I, Excitation, conduction and response: Stimulation and response of muscle and nerve. Transmission of excitation at the skeletal neuromuscular junction. Transmission of neural influences to visceral effector cells. Receptors, reflex arc conduction and reflex action. Section II, Circulation. General plan of the circulatory system. Physiology of the heart. Control of caliber of arterioles. Arterial blood pressure. Cardiac output. Venous pressure and venous pulse. Blood. Section III, Respiration: Uptake and transport of respiratory gases by the blood. The control of breathing. Section IV Digestion. Motility of the digestive tract. Secretion and actions of digestive juices. Section V, Nutrition and intermediary metabolism. Section VI, The endocrine system, by J. R. Trimer. Section VII, Kidney and urinary tract. Section VIII, Nervous system and senses: The afferent systems. The motor systems. Autonomic system and hypothalamus. Physiologic optics. Neurophysiology of the eye. Audition, taste and olfaction. The cerebral cortex. Index.

Note: A comparatively short introduction written for use in premedical and medical college courses. In the words of the author "brevity has been achieved largely by assuming a knowledge of those subjects which are prerequisite for the study of human physiology by restricting discussions of controversial questions and by presenting the current state of information without giving detailed evidence and without discussing the historical background." Each of the sections includes a selected bibliography for the guidance of those readers who wish to pursue particular topics further. The author is Professor of Physiology at the University of Wisconsin.

YOUMANS, WILLIAM BARTON

Nervous and neurohumoral regulation of intestinal motility New York Interscience Publishers, Inc. 1949 129 p illus. 24 cm. (Monographs in the physiological sciences. Editorial board Maurice B Visscher and others) $4 75 839

Contents: Introduction. Recording of intestinal motility and the interpretation of records. Extrinsic innervation of the intestine and methods of denervation. Sensitization of the intestinal musculature to adrenaline by denervation. Denervated intestinal segment as an indicator for adrenaline and sympathin. Summary. References.

Note: A review with literature references of the accumulated knowledge pertaining to the regulation of the motility of the small intestine by the extrinsic nerves and also by adrenaline and related compounds. Particular attention is given to the various experiments on which this knowledge is based. The author himself has carried on experimental studies of this subject since 1933 and in this book has correlated his results with the findings of other investigators.

NUTRITION AND FOOD

ALBANESE, ANTHONY AUGUST, editor

Protein and amino acid requirements of mammals. New York Academic Press Inc., 1950. 155 p. illus. 24 cm. $4.00 840

Contents. Some species and age differences in amino acid requirements, by H. H. Mitchell. Methods of measuring the nutritive value of protein hydrolysates and amino acid mixtures—the rat repletion method, by D. V. Frost. The laboratory evaluation of amino acid mixtures and protein hydrolysates, by R. H. Silber and C. C. Porter. Dietary proteins and synthesis of tissue proteins, by B. F. Chow. The protein and amino acid requirements of man, by A. A. Albanese. Index.

Note: The five papers in this volume present the current state of the knowledge of the nutritional requirements of protein and amino acid of mammals. In addition to one which is devoted entirely to the requirements of man, there is also some information on man in the other papers. Each paper is essentially a literature digest, supplemented by a substantial list of references. The book is addressed to graduate scientists, especially biochemists, nutritionists, and practitioners of medicine who are not actively engaged in protein and amino acid research but require a current knowledge of the progress in the field.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON FOODS AND NUTRITION

Handbook of nutrition. A symposium prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association. Second edition. Philadelphia The Blakiston Company 1951 717 p illus. 22 cm. $4.50 841

Contents Part I, Individual nutrients: Proteins in nutrition, by H. B. Lewis. Fat in nutrition, by H. C. Eckstein. Carbohydrate metabolism, by D. Stetten, Jr. Human requirement of calcium, phosphorus and magnesium, by G. Stearns. Iron and copper, by W. J. Darby. Iodine in nutrition, by G. M. Curtis and M. B. Fertman. Fluorine and other trace elements in nutrition, by F. J. McClure. The vitamin-B complex, by C. A. Elvehjem. Vitamin C, by C. G. King. Vitamin D, by P. C. Jeans. Fat-soluble vitamins A, E, and K, by H. R. Butt. Part II, Nutritional needs: Recommended dietary allowances, by G. MacLeod and H. C. Sherman. Energy requirements of adults, by A. Keys. Feeding of healthy infants and children, by P. C. Jeans. Nutritional requirements during pregnancy and lactation, by B. S. Burke and H. C. Stuart. Nutrition problems of geriatric medicine, by E. J. Stieglitz. Nutritional needs in illness and disease, by G. V. Mann and F. J. Stare. Part III, Nutritional deficiencies: Imbalance and dietary interrelationships in nutrition, by C. A. Elvehjem and W. A. Krehl. Caloric undernutrition and starvation, with notes on protein deficiency, by A. Keys. Fluid therapy, by D. C. Darrow and E. L. Pratt. Deficiencies of the fat-soluble vitamins, by J. B. Youmans. Deficiencies of the water-soluble vitamins, by J. B. Youmans. Mineral deficiencies, by J. B. Youmans. Part IV Foods and their nutritional qualities: Adequacy of American diets, by E. F. Phipard and H. K. Stiebeling. Foods of plant origin, by L. A. Maynard and W. L. Nelson. Foods of animal origin, by P. E. Howe.

Foods for emergencies, by R. M. Wilder and T. E. Keys. Improving the quality of cheap staple foods, by G. R. Cowgill. Index.

Note: (1948) Rather than a reference book of tabulated data as the title might suggest, this work is a collection of original papers each of which presents a survey of the current knowledge of the particular aspect of nutrition named in its title. Extensive literature references are included for most of the papers. The book is designed for the information of medical practitioners and public health personnel as well as for graduate nutritionists. The index is exceptionally full. The first edition appeared in 1943. This edition represents rather extensive rewriting in order to incorporate the great advances in the knowledge of nutritional requirements made during World War II and subsequently

FANNING, ROBERT JOSEPH, compiler

Pacific Islands nutrition bibliography Compiled and annotated by Robert Joseph Fanning. Honolulu, Hawaii University of Hawaii Press 1951 70 p 22 cm. Paper $1.00. 842

Contents: Bibliography Subject index. Area index.

Note A comprehensive bibliography of publications relating to chemical composition of foods, dietary requirements, dietaries of groups, nutritional status and dental conditions of groups, studies of energy metabolism, physical standards (heights and weights), descriptions of foods, methods of preparing foods, and extent of use of foods. The annotations are short but well written. The bibliography covers all publications issued through June, 1950. The geographical scope is Caroline Islands, Hawaiian Islands, Mariana Islands, Marshall Islands and Samoan Islands.

GERARD RALPH W editor

Food for life. By Ralph W Gerard, Richard J Block, Norman Jolliffe Clive M McCay Sedgwick E Smith, and Samuel Soskin. Chicago The University of Chicago Press, 1952 306 p illus 22 cm. $4 75 843

Contents The basic questions of nutrition. The nutrient materials in food. Preparation—from mouth to cell. Processing—in organs and cells. Enzymes—the effective agents. The regulation of cell metabolism. The purpose energy and growth. The foods of animals and men. The improvement of human nutrition. Index.

Note: An authoritative discussion of nutrition and foods written for lay readers. The style is lively and the book is illustrated with graphic diagrams which are easy to comprehend. However it is not an extremely simplified presentation. Technical terms, even chemical formulas, are used rather freely Research methods and noted experiments are described. The main theme is understanding of the body's processes and requirements so that food can be chosen intelligently

KEYS ANCEL AND OTHERS

The biology of human starvation. By Ancel Keys, Josef Brožek, Austin Henschel, Olaf Mickelsen, Henry Longstreet Taylor With the assistance of Ernst Simonson Angie Sturgeon Skinner and Samuel M Wells. Minneapolis The University of Minnesota Press, 1950 2 v illus. 27 cm. $24 00 844

Contents (abridged) Volume I Background: The history of starvation. The sources of evidence and information. The Carnegie Nutrition Laboratory experiment. General features of the Minnesota experiment. Morphology: Body weight. Physical appearance and external dimensions. Morphology of the heart and blood vessels. Morphology of the endocrine glands Bones and teeth. Skin and hair. Blood morphology including bone marrow Biochemistry: Basal metabolism Total energy exchange and nitrogen balance. Vitamins and vitamin metabolism. Lipid metabolism. Mineral metabolism. Carbohydrate metabolism. Physiology: The gastrointestinal system. Respiration. Circulation and cardiac function. Fasting and the cardiovascular response to posture. The electrocardiogram. Renal function. Special senses. Neuromuscular functions and motor performance. The capacity for work. Sexual function. Volume II. Psychology: Psychological problems in starvation Behavior and complaints in natural starvation Behavior and complaints in experimental starvation and rehabilitation. Intellective functions. Personality Special problems. The edema problem. Anorexia nervosa and pituitary cachexia. Growth and development. Infectious diseases and undernutrition. Tuberculosis. Diabetes mellitus and undernutrition. Cancer and other neoplasms. Diets for rehabilitation, with special reference to the Minnesota experiment. Appendices. References. Index.

Note. A detailed technical report, based on an extended experimental investigation of starvation in which 32 young men served voluntarily as subjects. In addition to the data derived from this original investigation, related data from the published literature have been incorporated. The work is a major contribution to the scientific knowledge of the subject and is of interest to graduate workers in such fields as biochemistry medical research, and nutritional research as well as in physiology and psychology

LEONG, PANG CHONG compiler

Nutrition bibliography of Malaya. Compiled and annotated by P C. Leong. Honolulu, Hawaii University of Hawaii Press 1952 23 p 22 cm. Paper $0 65 845

Note: A bibliography of published writings of all types through June 30, 1951. The term "nutrition" has been interpreted liberally to include all literature bearing on the subject, including compilations of data on heights and weights of children.

MACY ICIE GERTRUDE, AND OTHERS

The composition of milks a compilation of the comparative composition and properties of human cow and goat milk colostrum, and transitional milk. Prepared by Icie G Macy Harriet Kelley, and Ralph Sloan for the Food and Nutrition Board, with the consultation of the Committee on Maternal and Child Feeding Icie Macy Hoobler, chairman. Washington D C Published by the National Research Council, National Academy of Sciences 1950 64 p. 24 cm. (National Research Council. Bulletin number 119 January 1950) Free. 846

Note: This work consists chiefly of five tables in which detailed data on the five milks named in the sub-titles are organized. Data are supplied not only on the main constituents, but also on trace elements such as lead, lithium, etc., where such information was available. Literature references are included.

MACY ICIE GERTRUDE

Nutrition and chemical growth in childhood. Volume III Calculated data. With a foreword by Helen A. Hunscher Springfield, Illinois Charles C Thomas, 1951 2174 p. 24 cm. $8.00 847

Contents (abridged) Introduction. Data calculated for normal children from the original data obtained by the Research Laboratory of the Children's Fund of Michigan Proximate composition and energy values of diet. Carbohydrate. Fat. Nitrogen. Phosphorus. Chlorine. Sulfur Negative minerals. Calcium. Magnesium. Sodium. Potassium. Positive minerals. Excess of positive or negative minerals. Supplement Average values calculated from the original data obtained by the Department of Home Economics, Agricultural Experiment Station, College of Agriculture, University of Illinois. Appendix Interpretation of roentgenograms. Assessment of ages of bones in the hand and wrist. Index: Subjects and authors, Volumes I, II, and III.

Note. (1951a, 720*) The concluding volume of a clinical, chemical, psychological, anthropometric, and roentgenologic study of a diet-controlled group of normal children. Each child in the group was repeatedly measured and tested over a period of six or seven years in order to record the anatomical and physiological changes due to growth. The volume at hand contains over 1300 tables of data arranged chiefly by nutrient substance. It contains also information on skeletal maturation, and additional interpretation of the roentgenograms which were published in Volume II of the work.

MILBANK MEMORIAL FUND

Nutrition in relation to health and disease. Papers presented at a round table at the 1949

annual conference of the Milbank Memorial Fund, November 16–17 1949 New York Milbank Memorial Fund, 1950 249 p. illus. (part col d) 23 cm. Paper $1.00. 848

Contents (abridged) Foreword, by H. D. Kruse and Frank G. Boudreau. A survey of nutritional status among school children and their response to nutrient therapy by John G. Brown and Harold R. Pierce. Results from the study of bone density in the appraisal of calcium status, by Pauline Berry Mack. The influence of nutrition on the course of pregnancy, by Gustavus Tisdall. The objective evidences of nutritional deficiencies in pregnancy by W T Tompkins. Changes in blood values during pregnancy and the relation of protein levels to toxemia symptoms, by Dorothy G. Wiehl. Amino acids and protein in pregnancy with and without toxemias, by Thomas Primrose. Hypertension and renal lesions as manifestations of nutritional deficiency by W R. Hartroft. Ménière's syndrome as a malnutritional disorder, by Miles Atkinson. An experiment in the control of tuberculosis among Negroes, by Jean Downes. The effect of nutrient supplements on the course of tuberculosis, by H. R. Getz.

Note. The papers in the volume are the work of medical practitioners or others with professional interests in the relationships between nutrition and health. They are addressed to persons with similar interests but they are not so technical that they cannot be understood by persons without standard education in medicine. In other words, the contents of the book are also within the grasp of public health personnel and social workers. The individual papers are supplemented by excerpts from the discussions at the conference, illustrations, and literature references. Several illustrations are reproduced in color.

MITCHELL, HAROLD HANSON AND MARJORIE EDMAN

Nutrition and climatic stress, with particular reference to man. Springfield Illinois Charles C Thomas 1951 234 p. illus. 24 cm. $6 75 849

Contents. Introduction. Diet in cold environment. Diet in hot environment. Diet at altitude. Practical considerations. Literature cited. Addendum.

Note: Essentially this work is digest of the literature bearing on such matters as the effect of diet on tolerance to cold, the effect of heat on nutrient requirements, the physiological effects of altitude, and the effect of dietary modifications on the tolerance to anoxia. The literature surveyed includes both published literature and governmental research reports. The work itself was prepared as government research report under contract between the University of Illinois and the Quartermaster Food and Container Institute for the Armed Forces as an aid in the proper rationing of Army personnel in various climates and at different altitudes. It has been published in the present form because it is potentially useful in other fields than the military *The literature has been covered up to about* October 1, 1949.

NUTRITION SYMPOSIUM SERIES

Recent advances in nutrition research, with emphasis on the newer B vitamins. Proceedings of the scientific sections of the seventh annual meeting The National Vitamin Foundation Incorporated New York City April 3 1952 New York The National Vitamin Foundation Incorporated, *1952 129* p. 25 cm. Paper $1.50. 850

Contents: The metabolic role of crystalline vitamin B_{12}, by B. F Chow Some observations on substances combining with vitamin B_{12}, by B. F Chow and R. L. Davis. Role of the vitamins in antibody production, by A. E. Axelrod. Adrenal function in pantothenic acid deficiency by W A. Krehl and others. Some studies on the role of certain of the B vitamins in hematopoiesis, by D. R. Weir and R. W Heinle. The effect of certain nutritional factors on the reactions produced by acute stress in human subjects, by E. P Ralli. The skin lesions of human pyridoxine deficiency and their relationship to seborrheic dermatitis of the sicca type, by R. W Vilter and W Schreiner. The role of B vitamins in the nutrition of the pig, by R. W Luecke. The comparative value of various antibiotics in swine rations, by H. D. Wallace and T J. Cunha.

Note: A collection of original papers in which recent important developments in selected areas of nutrition research are summarized for professional workers. Literature references are included.

SHERMAN, HENRY CLAPP

Chemistry of *food and nutrition.* Eighth edition. New York The Macmillan Company 1952 721 p. illus. 22 cm. $6 00 851

Contents (abridged) Carbohydrates. Fats and lipids. Nutritional chemistry of the proteins and their amino acids. Enzymes and digestion. The basal energy metabolism, regulation of body temperature, and specific dynamic action. Total energy metabolism and food requirement. Quantitative aspects of protein needs and values. Mineral elements in foods and nutrition. Nutritional aspects of acid-base balance. Quantitative aspects of calcium and phosphorus needs and values. Iron and copper in food and nutrition. Iodine in nutrition. Ascorbic acid (vitamin C). Thiamine (vitamin B_1). Riboflavin. Niacin (nicotinic acid) and the pellagra problem. Folic acid, vitamin B_{12}, and citrovorum factor Other water-soluble vitamins and substances of related interest. Vitamin A and its precursors. The vitamins D and prevention of rickets. The nutritional chemistry of reproduction and lactation. Some chemical aspects of growth and development. Dietary adequacy and nutritional status. Conscious chemical control of the internal environment—the problem of the best use of food. Causes and extent of variations in the nutritive values of foods. Food economics in the light of the newer chemistry of nutrition. Improvement of already-normal nutrition. Appendices. Index.

Note: (726*) A standard work since the publication of the first edition in 1911 It was designed and is widely used as college text for use in home economic courses and other courses where fairly extensive knowledge of the fundamentals of nutrition is important. It has gradually taken on also the status of reference book for lay readers, social workers, public health workers, and others who have serious interests in the facts regarding the relation of nutrition to health. The style is concise and good deal of space is given to tables, formulas, and bibliographies. The seventh edition was published in 1946. In this edition the three last chapters are new and numerous revisions have been made in the text of other chapters.

SHERMAN HENRY CLAPP AND CAROLINE SHERMAN LANFORD

Essentials of nutrition. Third edition. New York The Macmillan Company 1951 454 p. illus. 22 cm. $4.25 852

Contents (abridged) The nutritional improvement of life. The more abundant nutrients in foods. What happens to food in the body—digestion and metabolism. Energy aspects of nutrition. How to meet the energy need and have the body weight you want. How to meet the need for protein. Mineral elements and regulatory processes in nutrition. Iodine. Ascorbic acid (vitamin C) Thiamine (vitamin B_1) Riboflavin, niacin (nicotinic acid) and the *problem of pellagra* with its related ills. Other water-soluble vitamins. Vitamin A and its precursors. Rickets and the vitamin D. Other fat-soluble vitamins. Some relations of food to the teeth. Nutritional characteristics of food commodities. Food costs and values—nutritional guidance in food economics. Appendix Fatty acids. Digestive enzymes. Composition and nutritive values of foods. Recommended dietary allowances. Glossary Subject index.

Note: (1860) A relatively brief textbook designed particularly for introductory college courses taken mainly by students who have had no previous courses in chemistry and physiology Interest is lent to the subject by linking it to the student's own nutritional problems as, for example, in the chapter where the relations between food intake and body weight are discussed. There are 41 tables of reference data and selected but extensive bibliographies In this edition numerous changes have been made to bring the book in line with the 1948 revision of the National Research Council's *Recommended daily dietary allowances* and with other developments.

SHERMAN HENRY CLAPP

The nutritional improvement of life. New York Columbia University Press 1950 270 p. illus. 23 cm. $3 75 853

Contents: Introductory—nutrition as public concern and as individual adventure. Nutrition in the nineties—beginnings of permanently organized research in nutrition. First decade of the twentieth century science of nutrition. Nutrition in the decade of 1911–1920. *Advances during* 1921 1930 *and the concept of nutritional improvement.* Nutrition in the decade of 1931–1940. In the Second World

War. Principles and practice. The internal environment and the quality of life. Improved nutrition and length of life. Further human implications. Better nutritional status for more people. Appendices: The 1946 world food survey of the Food and Agriculture Organization of the United Nations. Records of actual food consumption. Selected bibliography. Index.

Note: The main theme of this book by an internationally known authority on nutrition is that the rapid advance of nutritional knowledge especially in the present century has already improved the quality of human life and promises further improvement in the years ahead. The presentation is semi-popular and the book is potentially of interest to professional workers in the fields of public health, nutrition, and child care as well as to those general readers who seek mature discussions of scientific subjects.

TOEPFER, EDWARD WILLIAM, AND OTHERS

Folic acid content of foods. Microbiological assay by standardized methods and compilation of data from the literature. By Edward W Toepfer Elizabeth Gates Zook, Martha Louise Orr and L. R. Richardson. Washington D C. Government Printing Office, 1951 116 p illus 26 cm. (United States. Department of Agriculture. Agriculture handbook no 29) Paper $0 45 854

Contents: Introduction. Part I, Laboratory analysis of foods: Analytical procedures. Standardization of growth curves. Calculation of confidence limits. Reproducibility of assays. Recovery of added folic acid. Potential enzyme activity of chicken pancreas. Completeness of extraction. Results of laboratory analysis of foods. Part II, Compiled data on folic acid content of foods. Literature cited.

Note. Recognition of folic acid as a factor required for growth, reproduction, and prevention of anemia in animals and for treatment of several types of anemia in human beings led to the laboratory work on the folic acid content of food which is described and summarized in this handbook. The study was carried on jointly by the Bureau of Human Nutrition and Home Economics in Washington and by the Texas Agricultural Experiment Station. Results are reported of the systematic application of standardized analytical procedures to a large number of foods. Two summary tables on the folic acid content of various foods are given: the first, covering 16 pages, contains the detailed results of the laboratory analysis of market-purchased, locally produced, and special foods, showing total and free folic acid in edible portions determined by microbiological assay with *Lactobacillus casei* and *Streptococcus faecalis*; the second, covering 79 pages, contains compiled data from literature and other sources. References listed in the bibliography number 131

METABOLISM

GAUNT, ROBERT, AND JAMES H. BIRNIE

Hormones and body water Springfield Illinois Charles C Thomas, 1951 57 p. illus. 22 cm. (American lecture series. Publication no. 103 A monograph in American lectures in physiology edited by Robert F Pitts) $2.25 855

Contents: Introduction. Evolutionary considerations. The posterior pituitary antidiuretic hormone. The adrenal cortex. The thyroid. The adrenal medulla. The pancreas. The gonadal hormones. Toxemias of pregnancy. The liver. The adaptational syndrome. Water intoxication. Water metabolism in the newborn. Conclusions. References.

Note: This short monograph presents a synthesis of the available information on the activities of hormones on water metabolism in the human body. The action of individual and groups of hormones are considered as are some of the evolutionary factors which developed the present functional mechanisms of the human body. The bibliography contains 138 citations. The authors are faculty members of the Department of Zoology of Syracuse University.

HARTMAN FRANK ALEXANDER AND KATHARINE A. BROWNELL

The adrenal gland. 72 illustrations. Philadelphia Lea & Febiger 1949 581 p illus. 24 cm. $12 00. 856

Contents: Anatomy. Adrenal size. Circulation and innervation. Histology. Development and involution. Chemistry of chromaffin tissue. Chemistry of cortical tissue. Methods of assay and factors in secretion of epinephrine. Anaphylactic shock and other effects in relation to the medulla. Physiological and pharmacological effects of epinephrine. Functions of interrenal tissue. Relation of the adrenal to electrolyte and water exchange. Relation of the adrenal cortex to energy metabolism. Output and functions of cortical hormones. Function and fate of cortical hormones. Dietary factors in adrenal activity. Interrelation of the adrenal with the pituitary. Adrenal hypertrophy and regeneration. Other endocrine interrelationships. Relation of the adrenal cortex to the sexual organs. Addison's disease. Other insufficiencies. Hypersecretion of chromaffin tissue. Hyperactivity of the adrenal cortex. Adrenogenital syndrome. Adrenal pathology. Pathology related to adrenal dysfunction. Bibliography. Author index. Subject index.

Note. A monograph which presents the accumulated knowledge of the adrenal gland and its homologues throughout the animal kingdom, but with the greatest emphasis on the gland in mammals. The inclusive scope is obvious from the chapter titles. The chapters are concise critical digests of the pertinent literature and are keyed to the 126 page bibliography of source articles. The senior author has made many contributions to the field and both his and the junior author's findings are incorporated. The book is important in the literature of comparative physiology as well as in the narrower field of endocrinology.

MCELROY, WILLIAM DAVID, AND BENTLEY GLASS, editors

Copper metabolism. A symposium on animal, plant and soil relationships. Sponsored by the McCollum Pratt Institute of the Johns Hopkins University Baltimore The Johns Hopkins Press 1950 443 p illus. 24 cm. $6 00 857

Contents. The formation of copper complexes, by A. H. Corwin. The copper protein, ascorbic acid oxidase, by C. R. Dawson. The nature of the copper enzymes involved in tyrosine oxidation, by M. F Mallette. Phenol oxidases and plant respiration, by J. M. Nelson. Functional aspects of copper in plants, by D. I. Arnon. The copper nutrition of green plants and fungi, by R. A. Steinberg. A bioassay reaction involving copper proteins, by J. B. Thompson. Copper metabolism in the invertebrates, by V. G. Dethier. Hemocyanin, by A. Redfield. The use of radioisotopes of copper and molybdenum in nutritional studies, by C. L. Comar. The influence of copper on the metabolism of phosphorus and molybdenum, by G. K. Davis. Problems associated with copper-deficiency in ruminants, by H. R. Marston. Copper and molybdenum in relation to diseases of cattle and sheep in New Zealand, by I. J. Cunningham. Copper metabolism in human subjects, by G. E. Cartwright. The chemical nature of the copper complexes in peat soils and plants, by J. E. Dawson and C. K. M. Nair. Trace elements and phosphate in herbage plant nutrition, by H. C. Trumble. The nutrient element content of native forages in relation to land forms and soil types in the North Carolina coastal plain, by K. C. Beeson and G. Matrone. A summary of the symposium, by B. Glass. Author index of participants. Subject index.

Note: A collection of the original papers (together with excerpts of the discussions) presented at the symposium mentioned in the book's title. The papers are supplemented by lists of references, graph tables, and other illustrative matter. Most of the authors are scientists themselves who took part in original investigations bearing on the subject of their papers. The book is of interest primarily to graduate scientists conducting research in plant and animal nutrition and scientists in industry who are concerned with the application of the results of such research in the formulation of fertilizers, animal feeds, etc.

MCELROY WILLIAM DAVID AND BENTLEY GLASS editors

Phosphorus metabolism. A symposium on the role of phosphorus in the metabolism of plants and animals. Sponsored by the McCollum Pratt Institute of the Johns Hopkins University Volume I. Baltimore The Johns Hopkins Press, 1951 762 p illus. 24 cm. $10.00 858

Contents (abridged): Metabolism of polysaccharides and disaccharides, by W Z. Hassid. The problem of the direct utilization

of disaccharides by certain microorganisms, by M. Doudoroff. The synthesis of polysaccharides without the intermediation of phosphate, by E. J. Hehre. The effect of the hyperglycemic factor and epinephrine on liver and muscle phosphorylase by E. W Sutherland. Some studies of fructose metabolism, by M. W Slein. Phosphofructokinase and aldolase, by J F Taylor The metabolism of pentose and triose phosphates, by B. L. Horecker. The primary product of glucose-6-phosphate oxidation, by F Lipmann. Pyrimidine nucleosidases, by F Schlenk. Recent investigations on the formation and utilization of active acetate, by H. A. Barker. Initial stages of pyruvate oxidation, by R. S. Schweet and others. Acetyl transfer in the enzymatic synthesis and breakdown of citric acid, by J. R. Stern. The metabolism of two-carbon compounds, by D. Novelli. Lactate and citrate biosynthesis, by S. F Carson. Oxidative phosphorylation during electron transport, by F E. Hunter Jr. Ethyl alcohol oxidation and phosphorylation in extracts of E. coli, by G. B. Pinchot and E. Racker. The regulation of the rate of oxidation in rat liver mitochondria, by V R. Potter and R. O. Recknagel. The metabolism of phosphorus-containing coenzymes, by A. Kornberg. The structure of coenzyme A, by G. D. Novelli. The structure of pyridoxal phosphate, by I. C. Gunsalus. Pyridine nucleotides and coupled phosphorylation, by N. O. Kaplan. The biochemistry of inorganic pyrophosphates and metaphosphates, by G. Schmidt. The influence of inorganic ions on phosphorylation reactions, by H. Lardy The chemistry and thermodynamics of phosphate bonds, by P Oesper. Phosphate metabolism in the activity of skeletal and cardiac muscle, by W F H. M. Mommaerts. Energy sources of bioelectricity by D Nachmansohn. Phosphate bond energy and bioluminescence, by W D. McElroy Urea formation, by S. Ratner. The synthesis of peptide bonds, by P P Cohen. Adenosine triphosphate and carbon dioxide fixation, by M. F Utter. Summary by B. Glass. Author index of participants. Subject index.

Note. The original papers in this work together constitute substantial contribution to the literature of biochemistry The symposium was organized around series of major papers in which the current knowledge of particular area of phosphorus metabolism is summarized at some length. The major papers are complemented by shorter papers in which research workers present the results of their own investigations in the area. The titles of all the main papers and of majority of the shorter papers are listed above. The papers are accompanied by lists of references. The subject index of the book is exceptionally full.

SALTER, WILLIAM THOMAS

Chemical developments in thyroidology Springfield, Illinois Charles C Thomas 1950. 87 p. illus. 22 cm. (American lecture series. Publication no 26 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2.00 859

Contents: Introduction. Synthesis of the thyroid hormone. The blocking of thyroid activity Circulating thyroid hormone. Application of radio-iodine. Synopsis. Bibliography Index.

Note: A useful and authoritative summary of advances in the understanding of the thyroid hormone and of thyroid disease made in the period 1923–1948. A critical review of radioactive tracer techniques in studying thyroid physiology is included. What is known about the "metabolic circuit of the thyroid hormone" is concisely stated and points which are still obscure are indicated. There is bibliography of 119 citations of literature published 1923–1949

SELLE, W A.

Body temperature, its changes with environment, disease and therapy Springfield, Illinois Charles C Thomas 1952 112 p. illus. 22 cm. (American lecture series. Publication no 147 A monograph in American lectures in physical medicine, edited by W A. Selle) $3 50 860

Contents: Introduction. Heat production Heat dissipation. Integrated temperature control Neural mechanisms of temperature regulation. Internal disturbances of heat regulation. Environmental disturbances of heat regulation. Physical allergy References. Index.

Note: A concise summary of current knowledge. Although slanted toward the clinical aspects, most of the space is devoted to covering the physiology and the normal values However the therapy of such injuries as feasible is outlined. The book is essentially literature digest, and the bibliography lists 111 references.

SELYE, HANS, AND HELEN STONE

On the experimental morphology of the adrenal cortex. Springfield, Illinois Charles C Thomas, 1950 105 p illus. 22 cm. (American lecture series. Publication no 74 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2 75 861

Contents: Introduction. Materials. Experimental. Histologic findings and discussion. Summary References.

Note: A condensed report of the findings in series of experiments on rats and dogs conducted to elucidate hormonal influences on the gross weight and histologic structure of the adrenal cortex. The effects of six hormones and combinations of these were studied. The results are discussed and are related to previously published work in the field. There are 12 plates of illustrations and bibliography

SOSKIN SAMUEL AND RACHMIEL LEVINE

Carbohydrate metabolism correlation of physiological, biochemical and clinical aspects. Revised edition. Chicago Illinois The University of Chicago Press, 1952 346 p. illus 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine Lester R. Dragstedt and others) $8.50 862

Contents: Part I, The biochemistry and energetics of carbohydrate metabolism The importance of carbohydrates in nutrition. The enzymatic machinery of carbohydrate metabolism. The intermediary steps in carbohydrate metabolism. The liberation and transfer of the energy derived from carbohydrate breakdown. The use of energy for muscular contraction. Part II, Introductory physiological considerations: Nature and occurrence in the tissues of materials important to carbohydrate metabolism. Site of origin of blood sugar. The use of the diabetic organism in the study of gluconeogenesis. Part III, Critical survey of the classical criteria of diabetes Quantitative excretion of administered sugar and the dextrose-nitrogen ratio. Ketosis. The respiratory quotient. Gluconeogenesis from protein. Gluconeogenesis from fat. Utilization, dissimilation, and oxidation of carbohydrate Part IV The role of the endocrine glands in carbohydrate metabolism: Pancreas (insulin) The mode of action of insulin. The adrenal cortex. The thyroid. The anterior pituitary Permanent experimental diabetes produced without surgery Part Integration of physiological and clinical aspects: Regulation of carbohydrate metabolism. Pathological physiology and clinical applications. Comparative physiology of diabetes. Present frontiers of research in metabolism. Index.

Note: (134) The special feature of this textbook is its broad approach to the subject. The authors point out that the instruction in metabolism is usually divided among different departments of the same institution, with the result that the student secures disjointed understanding of carbohydrate metabolism. Their book is planned to correlate the material and to present comprehensive picture of carbohydrate metabolism and of selected aspects of fat and protein metabolism. It is designed for students of physiology biochemistry and medicine. The first edition was published in 1944. In this edition many significant revisions and additions are apparent. Many of these are based on the great advances in knowledge of metabolic processes which have been made possible by the use of radioactive isotopes in biological investigations. Recent literature has been added to the extensive chapter bibliographies.

WOOLLEY, DILWORTH WAYNE

A study of antimetabolites. New York John Wiley & Sons Inc. 1952 269 p. 24 cm. $5.00. 863

Contents. Introduction—discovery and development of ideas about antimetabolites. Competition between metabolically important compounds and substances related to them in chemical structure. Some general aspects of the phenomenon. Hypotheses about mechanism of action of antimetabolites. The spectrum of activity of antimetabolites. The natural occurrence of antimetabolites as participants in physiological processes and as etiological agents in disease. Selectivity of action of antimetabolites. Applications to chemotherapy Other applications to pharmacology Applications to biochemistry The design-

ing of antimetabolites. Practical suggestions for the synthesis and testing of antimetabolites. Bibliography Index of structural formulas. Subject index.

Note: The term "antimetabolites" as used in this book designates substances which are closely related in chemical structure to essential metabolic substances and have the additional property of interfering with these substances in the biochemistry of living organisms. The interest in antimetabolites derives (1) from the light that experiments with them may throw on biochemical processes, and (2) from the possibility that an understanding of them will point the way to the synthesizing of powerful pharmacologic agents. This book is survey of the current state of the field. It includes results from the author's own investigations and also those that have been reported in the literature. There is bibliography of five hundred references.

ZIMMERMANN, BERNARD

Endocrine functions of the pancreas. Springfield, Illinois Charles C Thomas, 1952 82 p. illus. 22 cm. (American lecture series. Publication no 114 A monograph in American lectures in endocrinology edited by W O Thompson) $2 50 864

Contents: History The nature of insulin. Metabolism in diabetes and the action of insulin. The regulation of internal pancreatic secretion. Special problems in lipid metabolism. The hyperglycemic factor. Conclusions. Index.

Note. A brief but useful summary of the current knowledge of the pancreas viewed as an endocrine gland, together with indications of aspects that need further investigation. An example of the latter is elucidation of the chemical mechanism by which insulin exerts its metabolic action. The book is based on selective and critical review of the literature in which the results of experimental investigations are reported. Fairly extensive bibliographical lists are included with the chapters.

SENSES AND SENSATION

GESELL ARNOLD AND OTHERS

Vision its development in infant and child. By Arnold Gesell, Frances L. Ilg and Glenna E. Bullis. Assisted by Vivienne Ilg and G N Getman. Third printing with additions. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1950 331 p. illus. 24 cm. $7 50 865

Contents: Introductory The eyes of today and tomorrow Orientation the background and scope of this study The evolution of the human action system The motor basis of vision. Part one, The growing action system The genesis of vision. Infancy The preschool years. The school years. Part two, Developmental optics: The visual domain. The complex of visual functions. The young eye in action. The ontogenesis of visual behavior Maldevelopment and child vision. Part three, Developmental appraisal A developmental hygiene of child vision. The conservation of child vision. Appendix Examination sequences and procedures. Ontogenetic gradients of visual behavior. Selected references Index.

Note. Reported in this volume are the results of ten-year investigation of the growth of visual functions in relation to the over-all development of infant and child from embryo and fetus through the age of 10 years. The study which was carried on for the most part at the Yale Clinic of Child Development and the New Canaan Country Day School, included clinical examination of behavior patterns, graded tests of visual skills, optometric measurements, and retinoscopic determinations of the brightness, the motion, direction, speed, and color of the retinal reflex in the eye. The purpose of the study was to indicate the nature and dynamics of the role of the development of the eye in the action system of the child. While the authors point out that their conclusions are preliminary in character, the work is an important one both for the understanding of vision and the understanding of children. Many of the illustrations are taken from the Yale Films of Child Development.

HIRSH IRA J

The measurement of hearing. New York McGraw Hill Book Company Inc. 1952 364 p illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan editor) $6 00 866

Contents: Foreword, by Hallowell Davis. Preface. Introduction. Sensation and measurement. The auditory stimulus: sound and electricity Electroacoustic systems. Absolute threshold for pure tones. the audiogram. The intelligibility of speech. Auditory masking and fatigue. Differential sensitivity Loudness and recruitment. Binaural hearing and bone conduction. Conditioning in audiometry Clinical audiometry Appendixes. Specifications for audiometers. Speech materials for auditory tests. Glossary Bibliography Name index. Subject index.

Note. All aspects of the measurement of hearing except the anatomy and physiology of the ear are considered in this work. The main emphasis is on the psychophysical aspects of the relations between sound sensations and stimuli. In the first chapter the reader is introduced to psychophysical methods, in the third chapter to the principles and characteristics of audiometers and hearing aids, and in the final chapter to the clinical techniques of measuring hearing. The rest of the book is chiefly devoted to use of experimental techniques in studying and measuring such aspects of the problem as ability to hear speech, auditory fatigue, auditory discrimination, etc. The book was written when the author was associated with the Psycho-Acoustic Laboratory of Harvard University and it was originally published as report under the auspices of the Office of Naval Research.

ITTELSON, WILLIAM H.

The Ames demonstrations in perception a guide to their construction and use. Princeton New Jersey Princeton University Press, 1952 88 p. illus. 28 cm. Paper $4 00 867

Contents. The star point demonstration. The line demonstration. The size-brightness demonstrations. The overlay demonstration. The parallax demonstration. The togetherness and apartness demonstration. The "thereness-thatness" demonstrations. The chair demonstration. The watch-card magazine demonstration. The aniseikonic demonstration. The artificial retina demonstration. The tilting room demonstration. The distorted room demonstrations. The aniseikonic glasses demonstration. The radial motion demonstration. The tangential motion demonstration. The circular motion demonstration. The "S" motion demonstration. The rotating trapezoid demonstration. The survey demonstration. Bibliography

Note. Twenty demonstrations developed under the direction of Professor Adelbert Ames, Jr., of the Dartmouth Eye Institute and Institute for Associated Research are specifically described in this book. The descriptions include for each demonstration photograph or drawing of the apparatus; brief description of the apparatus and its operation; an outline description of typical observations and effects which can be demonstrated with the apparatus and dimensioned drawings for the guidance for those who wish to construct the apparatus. The demonstrations are not limited to the study of vision but include wide range of perceptual phenomena.

LINKSZ ARTHUR

Physiology of the eye. Foreword by Walter B Lancaster New York Grune & Stratton, 1950–52 2 v illus. 26 cm. Vol. I $7 50 Vol. II $19.00 868

Contents (abridged) Volume I, Optics: Physics of light. Geometric optics The eye as an image-forming mechanism. Index. Volume II, Vision: An analysis of sensations. Pattern and detail vision. The perception of spatial relationships. Vision and the ocular rotary reflexes. References. Author index. Subject index.

Note. The books described here are the first two volumes of projected three-volume work. The work is development of many years of teaching. The author describes it as transcript of lectures but obviously the lectures have been consolidated and revised to some extent. However, the informal style remains. Practically all points mentioned are fully documented. The author's style is lucid and he has included numerous mentions of optical illusions and other borderline matters that add interest to the exposition. There are 137 figures in volume and 248 in volume II.

OGLE KENNETH NEIL

Researches in binocular vision Philadelphia W B Saunders Company 1950. 345 p. illus. 25 cm. $7.50. 869

Contents (abridged) Part I, The organization and sensory cooperation of the two retinas: The structure of the visual pathways. The theory of corresponding retinal points. Studies of the empirical longitudinal horopter. The empirical longitudinal horopter and monocular asymmetries. Part II, The fusional processes in binocular single vision. Panum's fusional areas. Fixation disparity. The fusion from peripheral retinal stimuli. The cyclofusional eye movements. Part III, The problems in binocular vision when changes are made in the relative magnifications of the images of the two eyes: Optical means for changing the magnification of the retinal image. Spatial localization and stereoscopic vision. The distortion of the stereoscopic perception of space. The induced effect. Asymmetric convergence. A theory of the induced effect. The sensitivity of the eyes in the discrimination of differences in the relative magnifications of their images. Part IV. The experimental and theoretical bases for aniseikonia: The instruments for measuring differences in the magnifications of the images of the two eyes. The origin of magnification differences between the images of the two eyes. The stability of corresponding retinal points. Eye movements and aniseikonia. Appendices: The theory of the correction of aniseikonia. The apparent orientation of the cross of the space eikonometer. References. Index.

Note: A major contribution to the understanding of the psychophysiology of binocular vision. It is based chiefly on an extensive program of research carried out at the Dartmouth Eye Institute. Some of the information included has not been published previously. The list of references runs to 190 citations and includes both the publications of the staff of the Dartmouth Eye Institute and the pertinent publications of other workers.

UNITED STATES LIBRARY OF CONGRESS. TECHNICAL INFORMATION DIVISION

Visibility a bibliography Compiled by Jack Weiner and Morris C. Leikind. Edited by Jack R. Gibson. Washington The Library of Congress, 1952 90 p. 27 cm. Paper $0.65 870

Contents (abridged) Visual detection factors in the laboratory. Physical variables in the field. Field visibility computations, measurements and observations. Engineering applications of visibility data. Author index.

Note: An unannotated but classified list of more than 1,000 references to the international literature published from 1925 to 1950 inclusive on the subject of visibility as influenced by the various physical, psychological, and physiological factors inherent in the observer, target, background and atmosphere, and the engineering applications of visibility data.

WALLS GORDON LYNN AND RAVENNA W MATHEWS

New means of studying color blindness and normal foveal color vision, with some results and their genetical implications. A contribution from the School of Optometry and the Department of Psychology of the University of California. Berkeley Calif University of California Press 1952 172 p illus 23 cm. (University of California publications in psychology Vol. 7 no. 1) Paper $2.50 871

Contents: Introduction. Normal color vision. Big four color blindness. The excess hypothesis. Genetics of color blindness. Maxwell's spot. Receptor-type distribution. Methods: The anomaloscope. The J-light test. Neutral point determination. The RDP. Results and discussion: Color-normal subjects. Typical dichromats. Typical anomalous trichromats. Typical monochromats. Protanopia-anomality heterozygotes. Special cases—miscellaneous. Special cases—anomalous compounds. Interpretation of the RDP. Itemized summary. Bibliography.

Note: The results of an experimental exploration of the commoner kinds of color blindness using the anomaloscope, ... instrument, are reported in this work. The methods adopted are put forward as an essentially new and valuable means of studying the common types of color blindness and normal foveal color vision.

WATSON LELAND A. AND THOMAS TOLAN

Hearing tests and hearing instruments. Baltimore The Williams & Wilkins Company 1949 597 p. illus. 24 cm. $7.00 872

Contents (abridged) Part one, Background of the audiometer: Fundamentals of hearing relating to audiometers and hearing aids. Fundamentals of audiometry. Part two, Interpretations of audiometric data: Evaluating the audiogram and speech hearing tests. Audiometric studies as an aid to diagnosis. Part four Social aspects of audiometry: Social problems and aspects of deafness. The audiometer in military, industrial, and medico-legal hearing. School hearing tests and problems. Part five, Hearing aids: The prescription and fitting of hearing aids. Social and economic aspects of the hearing aid. Part six, Advanced audiometry: Advanced audiometry and research. Bibliography. Reference bibliography. Glossary of terms in audiology. List of tables. List of illustrations. Index.

Note: This book is detailed practical manual on the use of modern pitch range audiometers in the measurement of hearing and on the prescription of present-day hearing aids for the correction of defective hearing. There is some discussion of the background, physiological and physical principles, and even of the social aspects, but most of the space is devoted to matters of direct concern in the use of the audiometer and the prescription of hearing aids. The presentation is technical, and the book is designed for medical practitioners and others with professional interests in the subject.

WEVER, ERNEST GLEN

Theory of hearing. New York John Wiley & Sons Inc. 1949 484 p illus. 22 cm. (Wiley publications in psychology Herbert S. Langfeld advisory editor) $6.50 873

Contents: Part I, The classical theories: The beginnings of auditory theory. The Helmholtz resonance theory. The place theories after Helmholtz. The frequency theories. Part II, The modern developments: Modern developments of the classical theories. Auditory nerve responses. Frequency representation in the auditory nerve. The volley principle. Part III, The volley theory: Basic evidence. Further evidence on cochlear localization: the acoustic neurology. Sensitivity. Loudness and fatigue. Pitch and pitch discrimination. Auditory abnormalities. The products of tonal interaction. Temporal phenomena of auditory perception. Binaural phenomena. The volley theory in review: concluding observations. Definitions and symbols. References. Index.

Note: The author, Professor of Psychology at Princeton University shows that the two main types of hearing theory formerly advanced and thought to be in conflict—the resonance type of place theory and the simple frequency theory—may be reconciled in the volley theory. The book sets forth in as non-technical language as possible the basic principles underlying the relationship between the physics of sound and the psychology of hearing and shows how the physical sound acts upon the sensory and neural mechanisms of the body and through its actions there becomes translated into auditory impressions. The bibliographical references cover 23 pages.

ZAHL PAUL ARTHUR, editor

Blindness modern approaches to the unseen environment. Princeton New Jersey Princeton University Press 1950 576 p illus. 24 cm. $7 50 874

Contents: Part I, History and welfare: Blindness in the United States, by G. Farrell. Blindness in Great Britain, by W. M. Eagar. Blindness in Canada, by E. A. Baker. The blind in continental Europe, by R. B. Irwin. Additional factors affecting the blind, by P. S. Platt. Part II, Education and psychology: The preschool blind child, by K. E. Maxfield. Psychological foundations of special methods in teaching blind children, by B. Lowenfeld. Education of blind children in the public schools, by O. F. Meyer. Home teaching and casework with the blind, by E. E. Pinetta. Measuring the intelligence of the blind, by S. P. Hayes. Personality and social adjustment among the blind, by T. D. Cutsforth. Part III, Vocational considerations: Vocational rehabilitation of the blind, by D. H. Dabelstein. Problems of the blind in industry, by P. J. Salmon. The deaf-blind, by P. J. Salmon. The blind and the professions, by H. Lende. Laboratory work for the blind, by C. M. Witcher. Part IV The military blinded: The blinded veteran, by L. Greenwood. The Army blind in the United States, by A. R. Blackburn. Rehabilitation procedures in the Navy, Marine Corps, and the Coast Guard, by M. E. Frampton. The service war-blinded in Great Britain, by I. Fraser. Part ... Time-tested boons to the blind: Avenues of communication, by G. Farrell. The talking book, by R. B. Irwin. The cane as travel aid, by R. E. Hoover. The guide dog movement, by W. H. Ebeling. A user's view of the guide dog as travel aid, by H. Chevigny. Part VI, Exploration of new technological horizons: Devices to aid the blind, by C. G. Ritter. Reading machines as tool for blind people.

by G. F. Meyer. The Committee on Sensory Devices, by G. W. Corner. Research on guidance aids for the blind, by P. A. Zahl. Factors in the assay and use of guidance devices, by E. A. Jerome and H. Proshansky. Psychological problems in the development of instrumental aids for the blind, by K. S. Lashley. Research on reading machines for the blind, by F. S. Cooper. Electrical and magnetic production of "phosphenes" and their possible application to problems of the blind, by C. P. Haskins. Part VII, Ophthalmological factors. The causes of blindness, by J. N. Greear, Jr. Index.

Note. This work was project of the National Research Council's Committee on Sensory Devices. It contains the best available account of the mechanical and electrical devices that have been developed and that are under development for the aid of the blind. Typical of this material is the chapter on reading machines which contains descriptions of the machines that have been invented, discussions of their advantages and shortcomings, accounts of the experimental program of the Committee on Sensory Devices, general survey of the problems that must be solved in the development of fully successful machine of the type, and list of the pertinent literature. The book contains, in addition, authentic discussions of other aspects of education and rehabilitation of the blind as indicated by the chapter titles.

BIOCHEMISTRY

GENERAL

ANNUAL REVIEW OF BIOCHEMISTRY Volume 21 J Murray Luck, editor Hubert S Loring, associate editor Gordon Mackinney associate editor Stanford, Calif Annual Reviews Inc., 1952 781 p. 23 cm. $6 00 875

Contents: Proteolytic enzymes, by A. K. Balls and E. F Jansen. Nonoxidative, nonproteolytic enzymes, by K. L. Altman and A. L. Dounce. Chemistry of the carbohydrates, by R. Montgomery and F Smith. Chemistry of lipids, by H. J Deuel, Jr., and R. Alfin-Slater. The chemistry and metabolism of the steroids, by L. T Samuels and H. Reich. The chemistry of amino acids and proteins, by H. B Bull. Nucleic acids, purines, and pyrimidines, by D. O. Jordan. Fat metabolism, by A. C. Frazer. Interrelationships of lipid and carbohydrate metabolism, by K. Bloch. Metabolism of amino acids and proteins, by H. Tarver Fat-soluble vitamins, by A. R. Kemmerer Nutrition, by E. J Bigwood. Chemistry of muscle, by M. Dubuisson. The biochemistry of neoplastic tissue, by F C. Koenerack. The biochemistry of antibiotics, by T S. Work. Comparative biochemistry by M. Florkin. Carotenoids, by G. Mackinney The alkaloids, by L. J. Sargent and L. F Small. Chromatography by S. Moore and W H. Stein. Carbohydrate metabolism, by S. Ochoa and J. R. Stern. Chemistry of the nonsteroid hormones, by C. H. Li and J. L Harris. Water-soluble vitamins concerned with one- and two-carbon intermediates, by A. D. Welch and C. A. Nichol. Biological oxidations, by B. Chance and L. Smith. Indexes.

Note: (743) As in earlier volumes of this useful and long-established series, each of the sections or papers is essentially summary of recently published literature. Some of the authors have obviously selected their material critically others have aimed at comprehensiveness. The typical paper is concisely written digest in which most statements are keyed to citations of the source articles. Publications of 1951 predominate in the bibliographies. An author index includes the names of all authors of the cited papers, and detailed subject index covers the contents of the volume Owners of the set will be interested in the second 10-year index: *Annual review of biochemistry—Cumulative index, volumes 11 to 20* edited by A. C. Griffin, Stanford, Calif., Annual Reviews, Inc 1952 377 p., $4.00.

ARTZ, NEAL ELLSWORTH, AND ELIZABETH M. OSMAN

Biochemistry of glucuronic acid New York Academic Press, Inc., 1950 103 p. illus. 23 cm. $3 00 876

Contents: Introduction Analytical methods. Occurrence. Origin of glucuronic acid in the body Detoxication. Bibliography Index.

Note: A digest of the international literature that bears on the biochemistry of glucuronic acid and especially on its metabolic significance. Statements and data in the text are carefully keyed to the bibliography which lists 454 books and papers. The authors are associated with the Corn Products Refining Company

BIOCHEMICAL PREPARATIONS. Volume 1 Herbert E. Carter editor in-chief New York John Wiley & Sons Inc. 1949 76 p. 24 cm. $2.50 877

Contents: Adenosine diphosphate. Adenosine triphosphate. L-alanine and L-serine. Azobenzene-p-sulfonic acid triphydrate. p-hydroxyazobenzene-p'-sulfonic acid. β-carboxymethylamino-L-sulfonic acid dihydrate. Casein. β-3,4-dihydroxyphenyl-L-alanine. Diphosphopyridine nucleotide. The α-glucose-1-phosphates. L-glutamine. DL-glyceraldehyde 3-phosphoric acid. Lysozyme. L-lysine monohydrochloride. Lysozyme. L-tyrosine. Subject index.

—— Volume 2 Advisory board, W Mansfield Clark and others. Editorial board Eric G Ball, editor in-chief New York John Wiley & Sons Inc., 1952 109 p. 24 cm. $3 00 878

Contents: Cytochrome c. Cucurbit seed globulin. Oxytocin. Phosvitin, sodium salt. Crystalline lactate dehydrogenase. Sodium pyruvate. Phosphoryl-enolpyruvic acid. L-α-glycerophosphoric acid. Glucose-6-phosphate. C[14] uniformly labeled sucrose. Fructose-1,6-diphosphate. meso- and DL-cyclo-inositol-2. Inositol monophosphate. DL-glutamic acid monohydrate. L-aspartic acid. S-benzyl-L-cysteinylglycine. methyl carbobenzoxy-L-glutamate. N-carbobenzoxy-γ-L-glutamyl-S-benzyl-L-cysteinylglycine. Glutathione. Reduced diphosphopyridine nucleotide. Phosphorylcholine. Oleic acid and methyl oleate. Methyl ricinoleate. Subject index.

Note The first two volumes of new series in which verified methods of synthesizing chemical compounds of biochemical interest are published.

BLOCK, RICHARD JOSEPH, AND DIANA BOLLING

The amino acid composition of proteins and foods analytical methods and results. Second edition. Springfield, Ill. Charles C Thomas 1951 576 p. 25 cm. $11.50 879

Contents (abridged) The diamino acids: arginine, histidine, lysine, hydroxylysine, and citrulline. The aromatic amino acids: tyrosine, tryptophan, phenylalanine, diiodotyrosine, thyroxine and dibromotyrosine. The sulfur containing amino acids: cystine, cysteine, and methionine. The β-hydroxy amino acids serine and threonine. The "leucines" leucine, isoleucine, and valine. The dicarboxylic amino acids aspartic acid and glutamic acid. Glycine and alanine. Proline and hydroxyproline. General methods. Summary tables. Protein and amino acid consumption in the United States. Bibliography Subject index.

Note: (744*) Biochemists and research workers in the field of nutrition are the principal users of this extensive compilation of data concerning the amino acid composition of wide variety of vegetable and animal proteins and on analytical procedures used in the identification of proteins. Like the previous edition (1945) this revision is based chiefly on review of the published literature of the subject, but some data from unpublished manuscripts and from the authors' own experimental work are included. The book has been expanded to cover research of the past six years. The inclusion of new values and analytical methods, and greatly enlarged bibliography account for almost 200 additional pages.

BLOCK RICHARD JOSEPH, AND OTHERS

Paper chromatography a laboratory manual, by Richard J Block, Raymond LeStrange, and Gunter Zweig. New York Academic Press Inc. 1952 195 p. illus (part col d) 24 cm. $4 50 880

Contents Introduction. Theory General methods. Quantitative methods. Amino acids, amines and proteins Carbohydrates. Aliphatic acids and steroids. Purines, pyrimidines, and related substances. Phenols, aromatic acids, and porphyrins. Miscellaneous organic substances. Antibiotics and vitamins. Inorganic separations. Bibliography Author index. Subject index.

Note: A discussion and evaluation of some of the more important techniques developed in paper chromatography written by three biochemists of the Biochemical Laboratories of The Borden Company Yonkers, N. Y The work is practical manual in which tried and proven procedures, employing relatively simple equipment and available reagents, are summarized. However, information is provided in sufficient detail to enable the biochemist to apply the technique of paper chromatography to his particular problem without

recourse to an extensive search of the literature. The bibliography covers eight pages; the great majority of its references are dated 1949 1950, and 1951

BOREK, ERNEST

Man the chemical machine. New York Columbia University Press, 1952 219 p illus. 23 cm. $3 00. 881

Contents. The stuff of life. Enzymes—giant molecules with gigantic know-how Vitamins—the enzymes' helpers. Sugars—the fuel of our cells. Isotopes—tracers for exploring the cells. Amino acids and proteins—masonry of our cells. Blood—the highway to our cells. Cell defense. Genes—the blueprints of our cells. The brain—cells that think. A credo. Index.

Note. A short, interesting account of some of the outstanding achievements of biochemistry The title is a little misleading for, although there is some emphasis on man, the subject is the chemistry of life. No chemical formulas, no mathematics and no bibliography appear in the book. The story is definitely written for the general reader and it is told authoritatively and clearly The author is a member of the faculty of the City College of New York.

BULL HENRY BOLIVAR

Physical biochemistry Second edition. New York John Wiley & Sons, Inc. 1951 355 p. 24 cm. $5 75 882

Contents Atoms and molecules. Energetics. Reaction kinetics. Ions in solution. Electrical conductance. Electromotive force cells. Acids and bases. Oxidation-reduction. Electrokinetics. Surface activity Biopolymers Osmotic pressure and related properties. Viscosity and the flow of liquids. Diffusion. The ultracentrifuge. High polymeric structures. Index.

Note (1914) A college textbook in which those parts of physical chemistry that are of interest in biochemistry and related biological sciences are presented for advanced students of biological sciences. The discussions of such topics as the use of the gold number in diagnosis, diffusion through membranes of living cells, and elasticity of fibers directly relate the theoretical material to the work of medical doctors and biologists. The book is designed as an introduction, yet it is substantial enough to be of interest to graduate workers in the biological sciences who are in need of a survey or "refresher" on physical chemistry. Much rewriting and a fair amount of new material have gone into the present edition.

COWDRY EDMUND VINCENT

Laboratory technique in biology and medicine. Third edition. Baltimore The Williams & Wilkins Company 1952 382 p. 24 cm. $7 50 883

Note. A standard reference book of information on chemical substances, instruments, and methods such as are of interest in professional laboratory work in such fields as biology biochemistry and medicine. The information is supplied in concise paragraphs devoted to specific topics. The arrangement of topics is alphabetical with abundant cross references. Citations of pertinent literature are given under most headings. The second edition was published in 1948. The third edition represents a very extensive revision with much new material added and all of the old that is still useful retained.

FIESER, LOUIS FREDERICK AND MARY FIESER

Natural products related to phenanthrene. Third edition of the monograph previously entitled *Chemistry of natural products related to phenanthrene* by L F Fieser New York Reinhold Publishing Corporation 1949 704 p. illus. 24 cm. (American Chemical Society Monograph series No 70) $10 00 884

Contents Quinones, morphine and related alkaloids. Resin acids Sterols and bile acids. Sex hormones Adrenal cortical hormones. Steroid metabolism. Cardiac active principles Steroid saponins Steroid and terpenoid alkaloids. Stereochemistry of the steroids, by Richard B. Turner Author index. Subject index.

Note: (1949) The steroids, which comprise bile acids, heart poisons, saponins, and sex hormones, constitute one of the largest groups of substances whose structures are similar to phenanthrene. This volume provides a comprehensive survey of present-day knowledge regarding the chemistry and molecular structure of such compounds. Because of recent advances made in our knowledge of the chemistry of the phenanthrenes, the present volume is double the size of the 1937 edition. New chapters on adrenal cortical hormones and steroid metabolism have been added, while others dealing with the sterols and sex hormones have been greatly expanded. Like other volumes in the series, this monograph is based on an extensive survey of the literature of the subject.

GLICK, DAVID

Techniques of histo- and cytochemistry a manual of morphological and quantitative micromethods for inorganic, organic and enzyme constituents in biological materials. With a foreword by Robert R. Bensley New York Interscience Publishers Inc. 1949 531 p. illus. 24 cm. $9 00 885

Contents (abridged) Microscopic techniques. Chemical techniques. Microbiological techniques. Mechanical separation of cellular components. Bibliography Bibliography appendix. List of manufacturers. Index.

Note. Laboratory techniques and procedures for the freeze-drying preparation of tissues, for the detection of various inorganic and organic elements and substances in tissues by chemical and physical methods, and for the separation of cellular components by centrifuging are some of the techniques covered in this book. Techniques and procedures are described fully together with the apparatus and (in the case of chemical techniques) the reagents. The book is based on the literature and the text is cross referenced to the thirty-page bibliography Included in the appendix is a list of manufacturers of apparatus and chemicals. The book is addressed to graduate scientists and professional research workers.

GOMORI GEORGE

Microscopic histochemistry principles and practice. Chicago The University of Chicago Press 1952 273 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $6 00 886

Contents. Part I, Histochemical methods in general: The nature of the processes of identification in histochemistry The special features of histochemical methods. The histochemical section. Controls to prove validity of techniques. Quantitation in histochemistry Part II, Systematic histochemistry: Inorganic substances: A, Metallic elements. B Nonmetallic elements. Organic substances: A, Saccharides: General principles of the histochemical demonstration of saccharides Substances other than nucleic acids. Nucleic acids. Appendix: Ascorbic acid. B, Lipids: Histochemical methods for lipids. Physical methods. Chemical methods. C, Proteins, amino acids, and products of protein metabolism: Proteins. Amino acid components of proteins. Antigens. Urea. Uric acid. D Prosthetic groups: Phenolic substances, especially polyphenols. Adrenalin. The enterochromaffin substance. Sulfhydryl (thiol) groups. E, Various unclassified organic substances. F Pigments. Enzymes: Preparation of tissues for enzymatic reactions. Histochemical reactions for enzymes 1 Oxidative enzymes Dehydrogenases. Oxidases. Peroxidases. Appendix. [illegible] 2 Hydrolytic enzymes: Methods for hydrolytic enzymes in general. Phosphatases. Alkaline phosphatases. 5-nucleotidase. Lecithinase (phospholipase) Acid phosphatase. Phosphamidase. Phosphorylase. Zymohexase (aldolase). Sulfatases Esterases Aliesterases Cholinesterases. The results of histochemical methods for esterases. β-glucuronidase. Carbonic anhydrase. Urease Appendix: Buffers for use in histochemistry Additional references. Author index. Subject index.

Note A survey and summary of current information in the field of microscopic histochemistry This field between histology and analytical chemistry or biochemistry is emerging as an independent discipline with its own theoretical background, methods, and special problems. In this volume the term "histochemistry" is used in the restricted sense to include only those methods of the identification and localization of chemical substances on a cytological scale in which the identifying chemical reaction is observed directly through the microscope in tissues of which the architecture is not greatly altered. The work is suitable for use as a textbook and as a laboratory guide. Bibliographical references are given in footnotes with additional references in an appendix.

GORTNER, ROSS AIKEN

Outlines of biochemistry Third edition ed ited by Ross Aiken Gortner jr and Willis Alway Gortner New York John Wiley & Sons, Inc., 1949 1078 p illus. 24 cm. $8.50. 887

Contents (abridged) Part I, Colloids: The colloid state of matter. Hydrogen-ion concentration. Oxidation reduction. Electrokinetic phenomena. Gels and the water relationships of the hydrophilic colloids. The Gibbs-Donnan equilibrium. Part II, Proteins: The amino acids, the primary decomposition products of proteins. Protein structure and the possibilities of protein isomerism. Reactions of proteins with acids and bases. Protein denaturation. Biological reactions of the proteins. Part III, Carbohydrates and related substances: Metabolism of carbohydrates. The pectic substances. Lignin and the tannins. Part IV The lipids and essential oils. Part Plant pigments. Part VI, Biochemical regulators Vitamins. The hormones. Enzymes. Author index. Subject index.

Note: (1939) An outline in the sense that it presents concisely wide range of information, this standard work is very useful both as an introductory survey of the current knowledge and as guide to the literature. The treatment is essentially from the standpoint of chemistry rather than that of physiological systems. Both plant and animal biochemistry are included. In this edition the chapters on protein denaturation, carbohydrate metabolism and lipid metabolism have been added, and numerous revisions have been made in other parts. In spite of the extensive revisions, considerable recent research is not included, probably because biochemistry has now grown too large to be encompassed in single volume no matter how condensed.

GREENBERG DAVID MORRIS compiler and editor

Amino acids and proteins, theory, methods, application. Springfield Ill. Charles C Thomas, 1951 950 p illus. 26 cm. $15.00. 888

Contents: Properties of amino acids, by E. E. Howe. Methods for the determination of amino acids, by H. S. Olcott. The preparation of amino acids and polypeptides, by S. Archer. The synthesis of labeled alpha amino acids, by J. C. Reid and B. M. Tolbert. Isolation of amino acids, by M. S. Dunn and L. B. Rockland. Classification, purification and isolation of proteins, by H. L. Fevold. Determination of the molecular size of proteins, by H. P. Lundgren and W. H. Ward. Amphoteric properties of amino acids and proteins, by D. M. Greenberg. Criteria of the purity of proteins, by C. H. Li. Chemical reactions of proteins, by H. Fraenkel-Conrat. Nutritional applications of the amino acids, by H. J Almquist. The chemistry of antibodies, by D H. Campbell and F Lanni. Biochemical applications of proteins and peptides, by D M. Greenberg. The metabolism of amino acids and proteins, by H. Tarver Index.

Note: A collection of original monographs on several aspects of the amino acids and proteins hich are currently of interest in research. In each paper the topic named in its title is treated compactly with extensive references to the related literature. The book is written on professional level and is aimed specifically at graduate students and professional biochemists beginning work in the field. It is product of the Biochemistry Laboratory of the University of California.

HARROW BENJAMIN

Textbook of biochemistry Fifth edition. Philadelphia W B Saunders Company 1950 609 p illus. 24 cm. $6 50 889

Contents Introduction. Carbohydrates. The lipids. Proteins. Nucleoproteins and nucleic acids. Enzymes. Foods. Vitamins. Synthesis in the plant kingdom. Digestion Detoxication. Absorption. Blood. Immunochemistry and chemotherapy Biological antagonists. Chemistry of respiration Metabolism of carbohydrates. Metabolism of the lipids. Metabolism of proteins Biological oxidations. Energy metabolism Inorganic metabolism and water. Chemistry of the tissues. Urine. Hormones. The chemistry of the nervous system. Appendix. Index.

Note: (743*) A long established text which is used primarily in introductory college courses. It is shorter than some introductory texts but by writing concisely and presenting little historical information the author has managed to present wide range of material. The fourth edition was published in 1944. Much rewriting and numerous additions scattered throughout the text are evident in this fifth edition. The changes include new chapter on biological antagonists and new material on peptidases, enzyme inhibitors, meiotic chromosomes, Vitamin B_{12}, estradiol, and muscular contraction. The bibliographies hich constitute an important part of the book have also been revised.

HAUROWITZ, FELIX

Chemistry and biology of proteins. New York Academic Press Inc. 1950 374 p. illus. 23 cm. $6.80 890

Contents. Role of proteins in biology Isolation, purification, and determination of proteins. Hydrolytic cleavage of proteins. Size and shape of protein molecules. Electrochemistry of proteins. Interaction of proteins with water Internal structure of globular proteins. Albumins, globulins, and other soluble proteins. Insoluble proteins (scleroproteins) Combination of proteins with other substances. Conjugated proteins. Proteins with enzymatic properties. Proteins with hormone activity Role of proteins in immunological reactions. Toxins (toxic proteins) The supply of amino acids for protein biosynthesis. Protein synthesis. Index.

Note: In this excellent book the author has presented proteins from the following standpoints (1) structure, (2) biological activity (3) biosynthesis in the living cell. These aspects are well integrated, but wherever knowledge is available to explain the behavior or biosynthesis of proteins on the basis of physical chemistry the author has presented it. The book is written on the graduate level. The treatment is compact but full of detail, and numbered references are made from the text to exceptionally extensive bibliographies. The author is Professor of Chemistry in Indiana University

MITCHELL, PHILIP HENRY

A textbook of biochemistry Second edition. New York McGraw Hill Book Company Inc., 1950 695 p. illus. 23 cm. $7.00. 891

Contents: An introduction to biochemical literature. Carbohydrates. Photosynthesis. Fats and related substances. Proteins and amino acids. Nucleoproteins and nucleic acids. The vitamins. Enzymes. Digestion Absorption and detoxication. Blood and lymph. Chemistry of respiration and acid base regulation. Biological oxidation. Calorimetry and energy metabolism. Carbohydrate metabolism. Metabolism of the lipids. Protein metabolism. Urine. Composition of foods; dietetics. The chemistry of animal tissues. Chemistry of the hormones. Chemotherapy Author index. Subject index.

Note (732*) The second edition of this textbook for undergraduate college students has been revised to include many significant developments since 1944. Important changes have been made in the chapters on the vitamins, enzymes, hormones, and the antibiotics. Essentially the book offers an introductory study of metabolism and food chemistry and their interrelationships as basis for the science of nutrition. A knowledge of basic organic and physical chemistry on the part of readers has been presupposed. The references given at the end of each chapter cite monographic and periodical literature through 1950 and has some helpful though brief annotations. The purpose of this bibliography is to summarize the mass of literature in the field rather than to document the text. The book has 90 figures and 33 tables.

PARPART ARTHUR KEMBLE, editor

The chemistry and physiology of growth. Princeton Princeton University Press 1949 293 p. illus. 24 cm. $4.50 892

Contents Enzymes and the synthesis of proteins, by J. H. Northrop. Molecular morphology and growth, by F O Schmitt. Plant growth hormones, by K. V Thimann. Unidentified vitamins and growth factors, by K. Folkers. The kinetics of growth of micro-organisms, by C. B. van Niel. Cellular metabolism and growth, by E. S. Guzman Barron. Differential growth, by P Weiss. Problems of organization, by J. S. Nicholas. Neoplastic abnormal growth, by C P Rhoads. The adrenal gland, regulatory factor by C. N. H. Long. Index.

Note. This book contains in revised form papers that were first presented at conference on "The Chemistry and Physiology of Growth" held in September 1946, as part of the celebration of the bi-centennial of Princeton University Each paper is in essence condensed monograph of the special topic named in its title and is supplemented by bibliography of the related literature. As whole, the book provides an interesting summary of the present state of knowledge pertaining to growth. It is addressed chiefly to persons with scientific education.

UMBREIT, WAYNE WILLIAM, AND OTHERS

Manometric techniques and tissue metabolism, by W W Umbreit, R. H. Burris, and J F Stauffer Chapters on specialized techniques by P P Cohen, G A. LePage, V R. Potter, and W C. Schneider, and contributions by J A. Bain, D E. Green, H. A. Lardy, A. L. Lehninger R. W McGilvery, and R. Wennesland. Second edition. Minneapolis, Minn. Burgess Publishing Co., 1949 227 p. illus. 29 cm. $4 00 893

Contents: The Warburg constant volume respirometer. The "direct method" for carbon dioxide. Carbon dioxide and bicarbonate. The "indirect method" of Warburg. Useful techniques in manometry. Design and calibrating flasks. The differential manometer with special reference to its use in studies of photosynthesis. Special methods employing manometric and electrometric techniques. "Thunberg techniques" for estimation of dehydrogenase activity. Methods for preparation and study of tissues. The homogenate technique. Methods for the isolation of particulate components of the cell. Chemical methods. Manometric estimation of metabolites and enzyme systems. Methods for the analysis of phosphorylated intermediates. Preparation of physiologically important intermediates and metabolites. Index.

Note: This laboratory manual for beginning graduate students in biology provides clear descriptions of various methods used in the study of tissue metabolism. The methods described are ones which the authors have found satisfactory in their own laboratories, including both manometric and other methods and approaches. The methods described require equipment such as is likely to be found in laboratory engaged in biological research, the chief of which are respirator colorimeter, and centrifuge. In the second edition the authors have corrected errors, added new techniques, and have deleted some parts of the first edition. Bibliographical references, chiefly from the periodical literature, are listed at the end of each chapter

WALKER, BURNHAM S , AND OTHERS

Biochemistry and human metabolism. By Burnham S Walker William C. Boyd, and Isaac Asimov With a foreword by John T Edsall. Baltimore The Williams & Wilkins Company 1952 812 p. illus. 24 cm. $9 00. 894

Contents: Part I, Structure: Proteins and amino acids. Protein structure. Tissue chemistry Blood and the anemias. Part II, Control Enzymes. Hormones. Part III, Growth. Nucleoproteins and growth. Cancer. Reproduction and heredity Part IV Metabolism: Food and diet. Digestion. Carbohydrates and diabetes. Lipid metabolism and ketosis. Proteins and starvation. Electrolytes and water—edema and shock. Respiration and acidosis. Heat and work. Excretion and some of its disturbances Part Pathology Vitamins and vitamin deficiency diseases. Infection. Part VI, Appendices. Abbreviations and symbols. Index.

Note The special organization and subject content of this book are due to its having been planned for the instruction of medical students rather than students of biochemistry Proteins, group of complex substances, are taken up first also more space is given to such subjects as cancer than would be given in general textbook. Most of the exposition deals with human biochemistry but there are incidental references to biochemical processes in lower forms of life. The chapters are accompanied by extensive reference lists to which statements in the text are keyed The authors are members of the faculty of the School of Medicine of Boston University

WEST, EDWARD STAUNTON, AND WILBERT R. TODD

Textbook of biochemistry New York The Macmillan Company 1951 1345 p. illus. (part col d) 24 cm. $12 00. 895

Contents (abridged) Gases and solutions. Electrolytic dissociation and the mass law Osmotic pressure. The colloidal state and membrane phenomena. Lipids. Carbohydrates. Proteins. Composition of tissues. Enzymes. Digestion of food. Detoxication in the body Chemistry of respiration, acid-base balance, and electrolyte and water balance. Energy metabolism. The vitamins. Biological oxidation and reduction. Organic phosphates in metabolism—chemical energetics. Nutritional aspects of proteins and amino acids. Nutritional aspects of the lipids and the carbohydrates. The metabolism of the inorganic elements. Urine formation and composition. The hormones. Antimetabolic agents. Index.

Note: A textbook designed for use in introductory college courses in biochemistry It is so written that it presents balanced view of the subject and at the same time the main details of such aspects as enzymes. Substantial lists of the pertinent literature are included. The authors are members of the faculty of the Medical School of the University of Oregon.

WITTCOFF HAROLD

The phosphatides. New York Reinhold Publishing Corporation 1951 564 p. 24 cm. (American Chemical Society Monograph series No. 112 William A. Hamor editor) $10.00. 896

Contents (abridged) Part I, The chemistry of the phosphatides: Nomenclature and classification of lipides. The structure of lecithin. The structure of the cephalin phosphatides. The structure of sphingomyelin. The structure of the minor phosphatides. The purification and the chemical properties of the phosphatides. The physical chemistry of the phosphatides. Phosphatide complexes. The lysophosphatides and the lecithinases. Synthesis of the phosphatides. Part II, The analytical determination of the phosphatides. Part III, Phosphatides from plant sources. Part IV Phosphatides from animal sources. Part V The biochemistry and physiology of the phosphatides: General aspects of lipide metabolism. The phosphatides as metabolic elements. The role of phosphatide hydrolysis products in metabolism. The role of the phosphatides in pathological conditions. Serological and oxidative functions of the phosphatides. Part VI, The industrial aspects of the phosphatides: The manufacture of phosphatides. The industrial uses of phosphatides. Author index. Subject index.

Note: A comprehensive survey of the literature and current knowledge of the phosphorus-bearing lipides. The published literature is covered through 1949 with some data from papers published in 1950. The book is addressed to graduate chemists, and it is of particular interest to biochemists and to industrial chemists in the food industries. The author is associated with General Mills, Inc.

WOLTERINK, LESTER F , editor

The biology of phosphorus. By G Evelyn Hutchinson, Harry G. Albaum, Harold C. Hodge, Jacob Sacks, and Henry A. Lardy East Lansing, Mich. Michigan State College Press, 1952 147 p. illus. 22 cm. Paper, $2 00. 897

Contents. The biogeochemistry of phosphorus, by G. E. Hutchinson. The role of phosphorus in the metabolism of plants The incorporation of radiophosphorus during growth, by H. G. Albaum. The dynamic role of the skeleton as shown by radioisotopes, by H. C. Hodge. The significance of the phosphorylation cycle in intermediary metabolism, by J Sacks. The role of phosphate in metabolic control mechanisms, by H. A. Lardy

Note. A collection of original papers which were first presented at symposium held at Michigan State College in April, 1951. Each paper is essentially short monograph in which the current status of specific facet of the biological role of phosphorus is described and is related to the pertinent source articles. Accounts of recent developments, for example the use of radioactive isotopes in studying the biochemistry of the skeleton, are included. The papers are addressed to such persons as graduate biologists and professional biochemists. The book is handy survey for such scientists as are in need of review of the subject and as guide to the significant literature.

HORMONES AND ENZYMES

ADVANCES IN ENZYMOLOGY AND RELATED SUBJECTS OF BIOCHEMISTRY edited by F F Nord. Volume IX. New York Interscience Publishers, Inc., 1949 760 p. illus. 24 cm. $9 95 898

Contents Some aspects of reversible step reactions, by L. Michaelis. Kinetics of biological reactions with special reference to

enzymic processes, by A. E. Stearn. Photochemistry of enzymes, proteins, and viruses, by A. D. McLaren. The nature of viruses, by M. A. Lauffer and others. The mechanism of fertilization in metazoa, by J. Runnström. Metabolism of semen, by T. Mann. Nitrogen metabolism of higher plants, by H. E. Street. Chemistry and enzymology of nucleic acids, by F. Schlenk. Pathways of acid formation in Aspergillus niger and in related molds, by T. K. Walker. Principles of enzymic histo- and cytochemistry, by D. Glick. Enzyme activity in frozen vegetable tissue, by M. A. Joslyn. Industrial biosyntheses: Part 1, Fats, by A. Hesse. Author index. Subject index. Cumulative index of volumes I–IX.

—— Edited by F. F. Nord. Volume X. New York Interscience Publishers, Inc., 1950 533 p. illus. 24 cm. $9.50 898a

Contents: Blood clotting and related processes, by T. Astrup. Tryptophanase-tryptophan reaction, by F. C. Happold. Phosphatase alkaline, by J. Roche and Nguyen-van Thoai. Synthesis of saccharides with bacterial enzymes, by W. Z. Hassid and M. Doudoroff. Some aspects of streptomycin and other *Streptomyces* antibiotics, by M. G. Brink and K. Folkers. Probleme des Citronensäurecyklus, by C. Martius and F. Lynen. Die Phytochemie des Schwefels, by T. Bersin. Chemical changes in the harvested tobacco leaf Part II, Chemical and enzymic conversions during fermentation and aging, by W. G. Frankenburg. Assimilation of hydrocarbons, by microorganisms, by C. E. ZoBell. Author index. Subject index. Cumulative index of volumes I–X.

—— Edited by F. F. Nord. Volume XI. New York Interscience Publishers, Inc., 1951 471 p. illus. 24 cm. $9.75 898b

Contents: The nature of entropy and its role in biochemical processes, by K. Ostwald. Reactions at interfaces in relation to biological problems, by J. F. Danielli and J. T. Davies. Chlorophyll fluorescence and photosynthesis, by E. C. Wassink. Thiol groups of biological importance, by E. S. Guzman Barron. Pectic enzymes, by H. Lineweaver and E. F. Jansen. Enzymic synthesis of polysaccharides—a biological type of polymerization, by E. J. Hehre. The biological transformations of starch, by S. Peat. Chemical investigations on allium, the specific principle of garlic, by A. Stoll and E. Seebeck. Some problems of pathological wilting in plants, by E. Gäumann. Author index. Subject index. Cumulative indexes.

—— Edited by F. F. Nord. Volume XII. New York Interscience Publishers, Inc., 1951 570 p. illus. 24 cm. $9.75 898c

Contents: Oxidoreduction in chloroplasts, by R. Hill. Mechanisms of fixation of carbon dioxide by heterotrophs and autotrophs, by M. F. Utter and H. G. Wood. Enzyme-substrate compounds, by B. Chance. The specificity of certain peptidases, by E. L. Smith. The enzymic hydrolysis and synthesis of acetylcholine, by D. Nachmansohn and I. B. Wilson. The present status of starch chemistry, by K. H. Meyer and G. C. Gibbons. Enzymes of starch degradation and synthesis, by P. Bernfeld. Biological methylation, by F. Challenger. Reaction of borate with substances of biological interest, by C. A. Zittle. Author index. Subject index. Cumulative indexes.

—— Edited by F. F. Nord. Volume XIII. New York Interscience Publishers, Inc., 1952 413 p. illus. 24 cm. $8.50. 898d

Contents: Localization of enzymes in cytoplasm, by H. Holter. Some aspects of the application of tracers in permeability studies, by H. H. Ussing. La biosynthèse induite des enzymes (adaptation enzymatique) by J. Monod and M. Cohn. Genetic formulation of gene structure and gene action, by G. Pontecorvo. Adenosine triphosphate and the structural proteins in relation to muscle contraction, by D. M. Needham. Hyaluronidases, by K. Meyer and M. M. Rapport. Certain aspects of intermediary metabolism of glutamine, asparagine, and glutathione, by H. Waelsch. Stoichiometric inhibition of chymotrypsin, by A. K. Balls and E. F. Jansen. The comparative biochemistry of nitrogen fixation, by P. W. Wilson. Author index. Subject index. Cumulative index of volumes I–XIII.

Note: (734–737*) These volumes continue a series begun in 1941. The authors are recognized authorities in their fields, and they have written for the information of graduate scientists working in biochemistry or related fields. Each of the chapters is mainly literature digest and is accompanied by a long list of references.

EDSALL, JOHN TILESTON, editor
Enzymes and enzyme systems their state in nature. Cambridge, Mass. Harvard University Press 1951 146 p illus. 22 cm. $3.00 899

Contents: The organized respiratory activity of isolated rat-liver mitochondria, by A. L. Lehninger. The cyclophorase system, by David E. Green. Aspects of the specificity and mode of action of some peptidases, by Emil L. Smith. The reactions of horseradish peroxidase with various hemins, by Andreas C. Maehly. The reaction of ferrocytochrome-c with peroxidases and peroxides, by Britton Chance. The state in nature of proteins and protein enzymes of blood and liver, by Edwin J. Cohn and others.

Note: The first volume of a new series entitled "Memoirs of the University Laboratory of Physical Chemistry Related to Medicine and Public Health, Harvard University." It contains papers which were first presented at a symposium held in 1949. The papers reveal several common lines of approach to thinking on fundamental problems by workers in widely separated laboratories. Each paper is illustrated and has a documenting bibliography appended. The book is of interest to graduate biochemists and other scientists concerned with enzymes.

EMMENS, CLIFFORD WALTER, editor
Hormone assay New York Academic Press, Inc., 1950 556 p. illus. 24 cm. $10.00. 899a

Contents: Statistical methods, by C. W. Emmens. Insulin, by K. L. Smith. Parathyroid hormone, by R. H. Thorp. Biological and chemical assay of adrenaline, by G. B. West. Posterior pituitary lobe hormones, by R. H. Thorp. Biological assay of the melanophore expanding hormone from the pituitary by F. W. Landgrebe and H. Waring. Gonadotrophins, by C. Hamburger. Adrenocorticotrophin, by F. S. Greenspan and others. Thyrotropic hormone, by C. W. Turner. Lactogenic hormone, by J. Meites and C. W. Turner. Mammogenic hormones, by C. W. Turner. Growth hormone, by F. S. Greenspan and others. Androgens, by R. I. Dorfman. Adrenal cortical hormones, by R. I. Dorfman. The chemical assay of steroids of the androgen and adrenocortical hormone groups, by R. K. Callow. Estrogens, by C. W. Emmens. Hormones of the corpus luteum, by C. W. Emmens. Chemical assay of estrogens and pregnanediol, by G. A. D. Haslewood. Thyroidal substances, by E. P. Reineke and C. W. Turner. The chemical assay of thyroxine and other substances with thyroidal activity by R. Pitt Rivers. Index.

Note: A full treatment addressed to biochemists and others whose professional work requires a knowledge of practical methods or of the current state of development of the field. Each of the chapters is essentially a compact monograph based on the author's own work and the published literature. In the first chapter the application of statistical methods to hormone assays is outlined; but, as the editor of the work points out, the study of many hormones has not yet reached the point where a high level of statistical treatment is possible in papers such as make up this book.

GORDON, EDGAR STILLWELL, editor
A symposium on steroid hormones. Madison The University of Wisconsin Press, 1950. 396 p. illus. 24 cm. $6.50. 900

Contents: The steroids—a historical review by G. F. Marrian. Review of research on the chemistry of the steroids, by L. F. Fieser. Biosynthesis of steroids, by K. Bloch. The metabolism of steroid hormones in humans, by K. Dobriner and S. Lieberman. Round table Growth and fattening of animals, by S. A. Asdell and others. Round table Metabolism and excretion of steroids, by H. L. Mason and others. Excretion of adrenal metabolites in man in health and disease, by E. H. Venning. The mechanism of the protein anabolic action of testosterone propionate, by C. D. Kochakian. Metabolic effects of adrenal steroids, by D. J. Ingle. Effects of adrenal steroids on blood cells and on certain aspects of protein metabolism, by A. White. Round table. The relation of structure to function of steroids, by A. L. Wilds and others. The effects of steroids on prostatic cancer, by C. B. Huggins. The relationship of steroid hormones to cancer clinical aspects, by G. H. Twombly. Round table: Lactation and reproduction in animals, by S. A. Asdell and others. Enzyme systems involved in the metabolism of androgens in the liver, by L. T. Samuels. Factors influencing endometrial growth in monkeys (*Macaca mulatta*) by F. L. Hisaw. Hormones and behavior with special reference to birds and the mechanisms of hormone action, by N. E. Collias. Steroids and pituitary hormones, by R. O. Greep and I. C. Jones. Some inherited hormonal factors influencing mammary carcinogenesis in virgin mice, by J. J. Bittner and R. A. Huseby. The metabolism of convalescence, by E. C. Reifenstein,

Jr. Genetic control of sex determination and differentiation in vertebrates, by R. R. Humphrey Steroid hormones and sex differentiation, by L. V Domm. Reconsiderations of the influence of genetic factors and steroid hormones in sex differentiation, by C. R. Moore.

Note: This book contains the major papers that were presented at symposium held at the University of Wisconsin in 1949 The papers were written by leaders in the investigation of the steroids or in their applications in animal husbandry clinical medicine, etc. Most of the papers are accompanied by extensive lists of references. The book lacks an index.

LAURENTIAN HORMONE CONFERENCE

Recent progress in hormone research. The proceedings of the Laurentian Hormone Conference, edited by Gregory Pincus. Volume VII. New York The Academic Press Inc. 1952 527 p illus. 24 cm. $9.50 900a

Contents Part I, *Pituitary hormones.* Chemistry of corticotrophin, by E. B. Astwood and others. Purification of the pituitary adrenocorticotrophic hormone, by M. L. Dedman and others. Regulation of ACTH secretion, by C. N H. Long. Aspects of pituitary-mammary gland relationships, by S. J Folley Part II, *Sex cycles.* The relationship of the nervous system to the release of gonadotrophin and the regulation of the sex cycle, by J E. Markee and others. Some physiological and medical aspects of the gonadal cycle of domestic animals, by F X. *Gassner.* Endocrinology and related phenomena of the human menstrual cycle, by O. W Smith and G. V Smith. Part III, Aspects of steroid hormone chemistry and physiology Studies on the biosynthesis of adrenal cortex hormones, by W J. Haines. Studies of the antiphlogistic and antibody suppressing functions of the pituitary adrenocortical secretions, by T F Dougherty A comparison of the histological changes induced by experimental hyperadrenalcorticalism and inanition, by B L. Baker Histamine, hormones and hypersensitivity by B. Rose. Part IV Hormones and metabolism Hormonal factors which regulate the mobilization of depot fat to the liver by L. Levin and R. K. Farber. The etiology of diabetes mellitus in man, by I. A. Mirsky Some clinical aspects of adrenal cortical and fluid metabolism, by C. W Lloyd. Author index. Subject index.

Note (756* 759*) The present volume of this valuable series contains the original papers presented at the Laurentian Hormone Conference in September 1951 The papers are devoted chiefly to the results of recent investigations, but each one of these includes also information from the pertinent literature. They are addressed to professional workers in biochemistry Bibliographies and excerpts from the discussions at the Conference are included.

PINCUS GREGORY, AND KENNETH V THIMANN editors

The hormones physiology chemistry and applications. Volume II. New York Academic Press, Inc. 1950 792 p 23 cm. $13 50 901

Contents: The physiology of ovarian hormones, by G. Pincus. Physiology of androgens, by R. I. Dorfman. Physiology of the adrenal cortex, by R. L. Noble. The chemistry and physiology of the thyroid hormone, by W T Salter The control of thyroid activity by W T Salter Physiology of the gonadotrophins, by H. M. Evans and M. E. Simpson. The hypophysis and diabetes mellitus, by L. L. Bennett and H M. Evans Hormones of the posterior pituitary by H. Waring and F W Landgrebe. Chemical control of nervous activity: A. Acetylcholine, by D. Nachmansohn B. Adrenaline and sympathin, by H. Blaschko. C. Neurohormones in lower vertebrates, by G. H. Parker Clinical endocrinology by H. Freeman Author index Subject index.

Note: (761) Volume of this notable addition to the literature of biochemistry appeared in 1948. Volume concludes the work. Each of the papers is critical monographic treatment of the specific topic named in its title Keyed references to original publications are incorporated in the text, and each chapter is accompanied by corresponding list of references to related literature The authors are themselves leaders in biochemical research, and their papers are addressed primarily to advanced students and professional workers in the same field. Chemical, physiological, and clinical aspects are all covered, hence the work is of interest not only to biochemists but also to physiologists and medical men, particularly endocrinologists and pharmacologists.

SUMNER, JAMES BATCHELLER AND KARL MYRBACK, editors

The enzymes, chemistry and mechanism of action. New York Academic Press, Inc., 1950–52 2 v in 4 parts. illus. 24 cm. Volume I, part I, $14 50 Volume I, part II $13.50. Volume II part I $14.80 Volume II, part II, $14 00 901a

Contents. Volume I, part II Introduction, by J. B. Sumner and K. Myrback. Physical chemistry and chemical kinetics of enzymes, by E. A. Moelwyn-Hughes. Enzyme specificity by B. Helferich. Enzymes in relation to genes, viruses, hormones, vitamins, and chemotherapeutic drug action, by M. G. Sevag and others. Cytochemical foundations of enzyme chemistry, by A. L. Dounce. Modern aspects of enzymatic adaptation, by S. Spiegelman. Enzyme inhibition, by L. Massart. Enzymes and immunology by J. R. Marrack. Enzymes hydrolyzing fats and esters, by R. Ammon and M. Jaarma. Acetylcholine esterase and cholinesterase, by K.-B. Augustinsson. Phosphatases, by J. Roche. Metaphosphate and its enzymatic breakdown, by B. Ingelman. Sulfatases, by C. Fromageot. Invertase, by C. Neuberg and I. Mandl. α-D-glucosidases, by A. Gottschalk. β-glucosidases, by B. Veibel. Hydrolysis of galactosides, mannosides, and thioglycosides, by S. Veibel. β-glucuronidase, by W H. Fishman. Amylases and the hydrolysis of starch and glycogen, by K. Myrback and G. Neumüller Volume I, part II: Cellulases, hemicellulases, and related enzymes, by W Pigman. Pectic enzymes, by Z. I. Kertesz. Enzymatic hydrolysis of mucopolysaccharides, by W H. Fishman. Proteolytic enzymes, by E. L. Smith. Urease, by J. B. Sumner. Arginase, by D M. Greenberg. Hydrolysis of acid amides and amino acid amides, by C A. Kittle. Allantoinase and allantoicase, by M. Laskowski. Hippuricase (histozyme) by F Leuthardt. Nucleolytic enzymes, by M. Laskowski. Enzymes as essential components of bacterial and animal toxins, by E. A. Zeller. Phosphorylase—phosphorolysis and synthesis of saccharides, by W Z. Hassid and others. Transaminases, by P P Cohen. Transmethylases, by T L. Sourkes. Enzymes and coagulation: I, Milk coagulation, by N. J Berridge. Blood coagulation, by W H. Seegers. Histidase and urocanase, by F Leuthardt. Penicillinase, by E. P Abraham. Thiaminase, by R. R. Harris. Enolase, by O. Meyerhof. Fumarase and aconitase, by S. Ochoa. Desulfhydrase, by C. Fromageot. Aspartase, by J Erkama and A. I. Virtanen. Carbonic anhydrase, by F J. W Roughton and A. M. Clark. Author index. Subject index. Volume II, part II Theory of oxidation-reduction, by L. Michaelis. Thermodynamics and mechanism of the phosphate bond, by N O. Kaplan. Transphosphorylating enzymes of fermentation, by S. P Colowick. Dephosphorylation of adenosine polyphosphates, by H. M. Kalckar. Aldolase and isomerase, by O. Meyerhof. Keto acid decarboxylases, by R. Vennesland. Amino acid decarboxylases, by O. Schales. Deaminases, by C. Fromageot. Codehydrogenases and II and apoenzymes, by F Schlenk. Succinic dehydrogenase, by F Schlenk. Hydrogenase and hydrogenlyase, by W W Umbreit. *Flavin* containing enzymes, by H. Theorell. The iron-containing enzymes, A. Cytochromes, by K.-G. Paul. The iron-containing enzymes, B Catalases and peroxidases, "Hydroperoxidases," by H. Theorell. The iron-containing enzymes, C. The enzyme-substrate compounds and mechanism of action of the hydroperoxidases, by B Chance. Copper oxidases, by C. R. Dawson and W B. Tarpley Oxidation of amino acids, by H. A. Krebs. Oxidation of amines, by E. A. Zeller Lipoxidase or unsaturated-fat oxidase, by R. T Holman and S. Bergström. Enzymes in luminescence, by E. N. Harvey Oxidation of organic sulfur by C. Fromageot. Anaerobic glycolysis, respiration, and the Pasteur effect, by F Dickens Yeast and mold fermentations, by F F Nord and S. Weiss Volume II, part Bacterial fermentation, by S. R. Elsden. Enzymes in detoxication, by F Bernheim. Urea synthesis, by H. A. Krebs. Peptide bond synthesis, by P P Cohen. Enzymatic synthesis of glutamine, by P P Cohen. Synthesis of acetylcholine—choline acetylase, by K.-B. Augustinsson. Oxidative assimilation by microorganisms, by C. E. Clifton Enzymatic mechanisms of carbon dioxide fixation, by S. Ochoa. Carbohydrate-fat conversion, by F L. Breusch. Photosynthesis in green plants, by W E. Loomis. Bacterial photosynthesis, by C. B. Van Niel. Nitrogen assimilation, by A. I. Virtanen and M. Rautanen. Tumor enzymology by J P Greenstein and A. Meister Enzyme technology by A. F Langlykke and others. Author index. Subject index.

Note. A comprehensive and valuable addition to the literature of enzymology written on the graduate and professional level. The chapters are monographic in form and have been prepared by specialists from the staffs of universities and biochemical and medical research organizations in the United States of America and other countries Numerous footnote references constitute an extensive bibliography of the subject. Indexes for each volume are included in parts two, but no index for the set as whole is provided.

TAUBER, HENRY

The chemistry and technology of enzymes. New York John Wiley & Sons, Inc., 1949 550 p. illus. 23 cm. $8.50 902

Contents (abridged) Part I, The chemistry of enzymes: Esterases. Carbohydrases. Phosphorylases and related enzymes. Nucleases, amidases, and deaminases. Proteolytic enzymes. Iron-porphyrin enzymes. Oxidases containing copper. Dehydrogenases containing codehydrogenases I and II. Flavoproteins. Decarboxylating and phosphopyridoxal enzymes. Hydrases, mutases, and other enzymes. Part II, The technology of enzymes: Yeast—production and utilization. Production of ethyl alcohol by fermentation. Mold fermentations. Bacterial fermentations. The production of antibiotics. Enzymes for medical use. The role of amylases and proteinases in bread making and the production of malt syrup. Enzymes in dairy products. Enzymes in the meat, egg, vegetable, and fruit industries. Pectin-decomposing enzymes and their use in the fruit juice, wine, and jelly industries. Enzymes in textile, paper and related industries. The use of enzymes in the manufacture of leather. Enzymes in other industries. Microbiological methods for the estimation of vitamins and amino acids. Author index. Subject index.

Note: (1940, 1941) In this comprehensive work the author has combined, in thoroughly revised form, the material found in two of his earlier works: *Enzyme chemistry* New York, 1937 and *Enzyme technology*, New York, 1941. It is written on professional level and is designed primarily for the use of physiological and biological chemists, including those employed in industry. It provides an up-to-date summary of the chemistry of practically all known enzymes, and description of their industrial production methods and present-day uses.

VITAMINS

THE ASSOCIATION OF VITAMIN CHEMISTS INC

Methods of vitamin assay Prepared and edited by The Association of Vitamin Chemists Inc. Second edition revised and supplemented. New York Interscience Publishers, Inc. 1951 301 p. illus. 24 cm. $5.50 903

Contents: Sampling for vitamin analyses. Vitamin A. Carotene. Ascorbic acid. Thiamine. Microbiological assay technics. Riboflavin. Niacin. Pantothenic acid. Vitamin B_6. Folic acid. Biotin. Vitamin B_{12}. Methods for other vitamins. Use of check samples in control of vitamin methods. Index.

Note. (162*) The new edition of this practical manual for laboratory analysis differs from the original edition in having been revised throughout and in including assays for several members of the vitamin B complex, namely pantothenic acid, pyridoxine, folic acid, biotin, vitamin B_{12}, for which methods were not described in the first edition. As in the earlier edition, the scope of the book is limited to methods which have been successfully applied by several members of the various committees of the sponsoring Association. The chapter, "Methods for other vitamins," which discussed those vitamins for which specific methods have not been outlined, has been extended to provide the analyst with basis for selecting procedures suitable to his work, and brief discussion is presented of the relative merits of the various published methods and their applicability to different types of samples. Selected bibliographical references appear at the ends of the chapters.

DEUEL HARRY JAMES JR.

The lipids their chemistry and biochemistry Volume I Chemistry New York Interscience Publishers Inc. 1951 982 p illus. 24 cm. $18.50 904

Contents: General characteristics and classification of lipids. The chemistry of fatty acids and glycerol. The chemistry of neutral fats. Waxes, higher alcohols including sterols, triterpenes, glyceryl ethers, colored fats, and hydrocarbons. Chemistry of the phospholipides and cerebrosides. Carotenoids and related compounds. Distribution, properties, and chemistry of the vitamins A. Distribution, properties, and chemistry of the provitamins D and vitamins D. Distribution, properties and chemistry of the vitamin E group. Distribution, properties, and chemistry of the vitamin K group. Author index. Plant and animal sources of lipids. Subject index.

Note: A comprehensive, well documented treatise on an abundant family of natural substances. Essentially the work is an expert digest of the published literature including the author's own papers. Extreme care has been taken with the botanical and zoological nomenclature and with the literature references. References are printed as footnotes on the pages where the related text occurs. The names of the authors of the papers cited are indexed in the 33 page author index. The second volume, which will complete the work, will be devoted to the biochemical and nutritional aspects of the lipids.

GYÖRGY PAUL, editor

Vitamin methods. New York Academic Press, Inc. 1950–51 571 p. 24 cm. $11.00. 905

Contents: Volume I Physical methods of vitamin assay by E. T. Stiller. Chemical methods of vitamin assay by P. György and S. H. Rubin. Microchemical methods, by O. A. Bessey. Microbiological methods in vitamin research, by E. E. Snell. The use of optical instruments in vitamin analyses, by Erich Hirschberg. References. Author index. Subject index. Volume II. General aspects of small animal experimentation, by N. B. Guerrant. The animal vitamin assays, by C. I. Bliss and P. György. Laboratory diagnosis of human vitamin deficiencies, by J. H. Jones. Clinical signs of malnutrition, by N. Jolliffe. Statistical methods in vitamin research, by C. I. Bliss. Supplement to volume I Physical methods of vitamin assay by E. T. Stiller. Chemical methods of vitamin assay by P. György and others. Microbiological methods in vitamin research, by L. D. Wright and others. Author index. Subject index.

Note: A work of fundamental significance to professional workers in medicine, pharmacy food industries, and other fields in which vitamins are of importance. The emphasis is on analyses and assay but wide range of related information which is of importance to research workers is also included. Each part is essentially monograph of its particular topic and is supplemented by long list of related literature.

HARRIS PHILIP LESLIE, AND WILMA KUJAWSKI editors

Annotated bibliography of Vitamin E 1940 to 1950 New York The National Vitamin Foundation, Incorporated, 1950 184 p. 27 cm. (The Research Laboratories of Distillation Products Industries, Rochester N Y Division of Eastman Kodak Company) Paper $3.00 906

Contents: Occurrence and distribution in nature. Determination. Chemistry Physiology and pathology Pharmacology Nutrition and metabolism. Medical and therapeutic use. Veterinary use. Author index.

Note: There are 1442 references in this bibliography classified under the headings given in the above contents. There are subheadings under each of the major headings, for instance under "Nutrition and metabolism" the last is subdivided as follows: "Growth and longevity Nutrition, Hepatoxicity Physiological antioxidants, Effect on metabolism, Enzymes. Some entries are not annotated but most of them are supplemented by an annotation of from one to five paragraphs in length.

JUKES THOMAS H.

B-vitamins for blood formation. Springfield, Illinois Charles C Thomas 1952 113 p 22 cm. (American lecture series. Publication no 146 A monograph in American lectures in pharmacology edited by Chauncey D Leake) $4.00 907

Contents: Introduction—the megaloblastic anemias. B vitamins in the megaloblastic anemias of pregnancy and infancy Folic acid —pteroylglutamic acid. The vitamin B_{12} group of compounds. The intrinsic factor. Antagonists of pteroylglutamic acid. The citrovorum factor Metabolic reactions involving folic acid and vitamin B_{12}. Vitamin B_{12} deficiency and anemia. Index.

Note: A brief review of the chemistry and physiology of the B-complex vitamins which are used in combating certain types of anemia. The book is concerned specifically with pteroylglutamic acid, the vitamin B_{12} group, and the intrinsic factor each of which is discussed as to its properties, physiological effect, and therapeutic value. Extensive bibliographies are included. The author is associated with the Lederle Laboratories Division of the American Cyanamid Company

VITAMINS AND HORMONES ADVANCES IN RESEARCH AND APPLICATIONS. Edited by Robert S Harris and Kenneth V Thimann. Volume IX. New York Academic Press Inc., 1951 395 p. illus. 24 cm. $8.00 908

Contents. The role of vitamin B_{12} in metabolic processes, by T H. Jukes and E. L. R. Stokstad. Functions of biotin in enzyme systems, by H. C. Lichstein. The functions of B-vitamins in the biosynthesis of purines and pyrimidines, by W Shive. Antimetabolites of nucleic acid metabolism, by L. D Wright. The effect of vitamin deficiencies on adrenocortical function, by A. F Morgan. Relationship between estrogens and enzyme activity by W H. Fishman. The synthesis and metabolism of radioactively-labeled steroids, by G. H. Twombly Effects of cortisone and ACTH, by R. G. Sprague. Urinary gastric secretory depressants (urogastrone) by M. H. Friedman. Author index. Subject index.

Note. (764*) The present volume of this well-known series in biochemistry contains the papers listed above. As in previous issues, each paper is essentially monographic survey of the current knowledge of its specific topic, supplemented by comprehensive literature references.

WILLIAMS, ROGER JOHN AND OTHERS

The biochemistry of B vitamins by Roger J Williams Robert E Eakin Ernest Beerstecher Jr., and William Shive. New York Reinhold Publishing Corporation, 1950 741 p 23 cm. (American Chemical Society monographs William A. Hamor, editor No. 110) $15 00 909

Contents (*abridged*) Section A, Characterization, distribution, assay and biogenesis of B vitamins. Distribution of B vitamins. Assay methods. Biogenesis of the B vitamins. Section B, The catalytic functions of the B vitamins. Section C, The role of the B vitamins in animal and plant organisms. Methods of assessing B vitamin requirements. Factors influencing B vitamin requirements. B vitamin deficiency states. Section D, The comparative biological activities of the B vitamins and related compounds: *p*-aminobenzoic acid. Biotin. The folic acid group. The nicotinic acid group. Pantothenic acid. The vitamin B_6 group. Riboflavin. Thiamine. Biological activities of other nutritional factors of doubtful status. Index.

Note: A substantial contribution to the literature of vitamins. Essentially it is critical digest of the published literature of the field. Statements in the text are keyed to the extensive lists of original sources which accompany each chapter As is characteristic of this series, the authors are all recognized experts, and the work is addressed to persons with scientific training and interests. It is of interest to professional workers in many fields, including biochemistry pharmacology nutrition, and medicine.

BACTERIOLOGY

GENERAL

AMERICAN PUBLIC HEALTH ASSOCIATION

Diagnostic procedures and reagents techniques for the laboratory diagnosis and control of the communicable diseases. Third edition. New York American Public Health Association Inc. 1950 589 p. illus. (part col'd) 24 cm. $6.00 910

Contents: Culture media, by Lt. Col. P. R. Cachquist. The streptococci, by G. M. Mackenzie. The pneumococcus, by K. Goodner. The meningococcus (*Neisseria meningitidis*), by S. E. Branham. The gonococcus (*Neisseria gonorrhoeae*) by C. M. Carpenter. Hemophilus pertussis, by P. Kendrick and others. The diphtheria bacillus (*Corynebacterium diphtheriae*) by M. Frobisher Jr. The tubercle bacillus (*Mycobacterium tuberculosis*) by M. M. Cummings. Salmonella and Shigella, by M. B. Coleman. Brucellosis (undulant fever) (*Brucella abortus*, *Brucella suis*, and *Brucella melitensis*) by E. E. Bowman and D. E. West. Tularemia (*Pasteurella tularensis*) by G. D. Brigham. The cholera vibrio (*Vibrio comma*, *Vibrio cholerae*) by C. V. Seastone. The laboratory diagnosis of anthrax, by W. A. Hagan. The laboratory diagnosis of glanders, by W. A. Hagan. Serodiagnosis of syphilis, by J. F. Mahoney and M. R. Zeally. Chancroid and granuloma inguinale, by E. E. Sandeman. Infectious mononucleosis, by G. A. Burst. Leptospira infection (Weil' disease) by A. B. Kaminsky. Bacterial food poisoning, by G. M. Dack. The malaria parasites of man, by A. Watson. Laboratory diagnosis of helminths and protozoa, by H. W. Brown. Trichinosis, by H. B. [illegible]. Pathogenic fungi, by N. F. Conant. Blood cultures, by C. G. Burn. Technic of RH testing, by P. Levine and M. Wigod. Antimicrobial assays—bacterial response and level determinations in body fluids, by C. R. Falk. Index.

Note: (1949) A more or less official handbook of accepted and standard procedures. Each of the monographic papers was prepared by one or more recognized specialists and was evaluated in manuscript by experts serving as referees. In the present edition fourteen of the chapters are new and those carried over from the preceding edition have been slightly or extensively revised as required. As in earlier editions, the papers are accompanied by extensive literature references and in many instances by illustrations.

ANNUAL REVIEW OF MICROBIOLOGY Volume 6 Charles E. Clifton, editor Sidney Raffel, associate editor H. Albert Barker associate editor Stanford University California Annual Reviews Inc. 1952 492 p 23 cm. $6.00. 911

Contents: Metabolism of microorganisms, by M. C. Lichstein. Nutrition of microorganisms, by J. L. Stokes. Genetics of microorganisms, by E. Kaplan. The coryneform bacteria, by H. L. Jensen. The human rickettsioses, by E. J. Bell and C. B. Philip. Classification and nomenclature of viruses, by C. H. Andrewes. Identification of virus infection in plant tissues, by J. H. Jensen. Nematodes parasitic on plants, by B. G. Chitwood and B. A. Oteifa. Soil microbiology by A. G. Lochhead. The characteristics of antibodies, by E. L. Smith and R. V. Joyce. Hemagglutination in relation to host cell-virus interaction, by F. M. Burnet. Influence of age on susceptibility to virus infections with particular reference to laboratory animals, by M. M. Sigel. Toxoplasma and toxoplasmosis, by D. Weinman. Metabolism of spirochetes, by G. M. Coleman. Recent advances in the taxonomy of yeasts, by L. J. Wickerham. Bacterial viruses, by W. H. Price. The standardization of immunological substances, by O. Maaløe and N. K. Jerne. Associations between microorganisms and higher plants (mycorrhiza) by J. L. Harley. Antibiotics, by W. M. M. Kirby. The mode of action of chemotherapeutic agents, by H. W. Jaffee. Biological activities of antibiotic antigens, by W. Sabes. Indexes.

Note. (771) The present volume of this useful series contains papers as noted above. Each of them [illegible] is essentially a digest of recent literature, but instead of aiming at comprehensiveness some of the authors have selected aspects not adequately covered in other reviews or have given prominence to sub-areas of particular current interest. The typical paper however is a concisely written resume keyed to a bibliography in which citations of 1950 and 1951 publications are predominant. The names of authors of all the cited papers are included in the author index and the detailed subject index covers the contents of the whole volume.

BRUCELLOSIS. A symposium under the joint auspices of National Institutes of Health of the Public Health Service, Federal Security Agency United States Department of Agriculture, National Research Council, September 22-23 1949 Bethesda, Maryland. Washington American Association for the Advancement of Science, 1950 271 p. illus. 24 cm. o.p. 912

Contents: Comments on the early history of human brucellosis, by A. C. Evans. Some aspects of the physiology of *Brucella* organisms, by R. H. Huyer. Variation in the genus *Brucella*, by W. Braun. The chemistry of *Brucella* organisms, by C. R. Pennell. The pathogenesis and pathology of experimental brucellosis, by A. L. Braude and D. Anderson. Immunology of brucellosis, by R. R. Elberg and R. J. Silverman. Bactericidal tests in brucellosis, by M. R. Irwin and D. T. Berman. The epidemiology of brucellosis, by C. F. Jordan. Laboratory tests in brucellosis, by M. R. McCullough. The isolation of *Brucella* from blood clots, by S. R. Damon and K. Albright. The *Brucella abortus* ring test, by M. H. Roepke. Clinical aspects of human brucellosis, by W. W. Spink. Therapy of brucellosis in man, by C. W. Eisele. Chemotherapy of experimental brucellosis in guinea pigs, by R. N. Carle and C. L. Larson. Brucellosis in cattle, by C. A. Manthei. Swine brucellosis, by L. M. Hutchings. Brucellosis in animals other than cattle or swine, by W. L. Boyd. Brucellosis in Puerto Rico, by P. Morales-Otero. Brucellosis in Canada, by R. Gwatkin and A. F. W. Peart. Brucellosis as viewed by the rural practitioner by F. M. Anderson. The control of brucellosis in animals by the use of vaccine, by J. Traum. The control of brucellosis in animals employing test and slaughter methods, by H. L. Gilman. Federal aspects of the control of brucellosis, by B. T. Simms. A summary of the present knowledge of brucellosis, by M. H. Soule.

Note. A book of original papers prepared especially for this symposium. The conference and the book both served to bring together contributions from authorities in medicine, veterinary medicine, and public health. Most of the papers are supplemented by extensive bibliographies, and the names of the authors of the cited papers have been indexed in the author index. Although not a systematic treatise, the book does contain a wide array of facts.

BUCHANAN ROBERT EARLE, AND ESTELLE DENIS BUCHANAN

Bacteriology Fifth edition. New York The Macmillan Company 1951 678 p. illus. 22 cm. $6.00 913

Contents (abridged): The beginnings of bacteriology. How microorganisms are named and classified. Bacteria, their morphology and classification. The viruses, their characteristics and classification. The yeasts, their morphology and classification. The molds, their morphology and classification. Inheritance, variability and mutations of microorganisms. Distribution of microorganisms. Sterilization. Preparation and uses of culture media. Study of growth characters in pure cultures. Methods of observation of certain physiological characters. Methods of microscopic examination. Effects of physical agencies on microorganisms. Physical effects produced by microorganisms. Effects of chemical environment upon microorganisms. Some mechanisms of chemical changes produced by microorganisms. Chemical changes of economic significance produced by microorganisms. Microorganisms in water and sewage. Microorganisms in milk. Microorganisms as symbionts and commensals in animals. Resistance to disease—immunology and serology. Disease-producing microorganisms. The pathogenic cocci. Diphtheria group. Plague group. The intestinal group or enterobacteria. Undulant fever—abortus group. The cholera-pseudomonad group. Group of plant pathogens. The

hemophilic group. Acid-fast or tuberculosis group. The tiny bacteria group. The spirochete group. The typhus-tick fever group. Viruses and bacteriophage. Fungi and yeasts pathogenic for man and animals. Pathogenic protozoa. Appendixes. Index.

Note (1947) A standard textbook for introductory college courses. Basic knowledge is emphasized but there is also much description of applications. Although pathogenic organisms are described and the diseases they produce are discussed briefly the book is not designed for pre-medical or medical students. In this edition it has been extensively rewritten and enlarged.

BURGER, MARTIN

Bacterial polysaccharides their chemical and immunological aspects Springfield, Illinois Charles C Thomas 1950 272 p. illus. 24 cm. $6 75 914

Contents. Historical and introduction. Pneumococcus polysaccharides. Enzyme studies on bacterial polysaccharides and in infections. Streptococcus polysaccharides. Neisseria polysaccharides. Vibrio polysaccharides. Anthrax polysaccharides. Eberthella typhosa polysaccharides. Polysaccharides of the mycobacteria. Dysentery bacilli polysaccharides. Genus Hemophilus polysaccharides. Polysaccharides of the Salmonella. Brucella group polysaccharides. Staphylococcus polysaccharides. Polysaccharides of the more important Klebsiella, Escherichia, Aerobacter and Proteus groups. Appendix. Author index. Subject index.

Note A monograph on the polysaccharide substances that are related to infection and immunity. Essentially it is a digest of the published literature and each of the short chapters is accompanied by an extensive bibliography. Also there are many tabular presentations of data. Techniques for isolation and identification of specific polysaccharides in the laboratory are given particular emphasis.

CLIFTON, CHARLES EGOLF

Introduction to the bacteria. New York McGraw Hill Book Company Inc. 1950 528 p. illus. 24 cm. $5 50 915

Contents: Introduction to the bacteria. The observation of bacteria. The structure of bacteria. The protozoa and algae. The true fungi. The bacteria. The viruses. Energy requirements of bacteria. Mechanisms of microbial respiration. Metabolic groups of bacteria. Growth requirements of bacteria. The multiplication of bacteria. Death of bacteria. Microbial variations. Classification of the true bacteria. Bacteriology of soil. Bacteriology of water. Bacteria in the air. The preparation and preservation of food. Industrial microbiology. Infection and resistance. The ecological sections. The Enterobacteriaceae. Microbiology of infectious disease. Index.

Note A simple, introductory presentation. Some information is included on most phases of the field, but more space is given to biochemical aspects. The author is Professor of Bacteriology in Stanford University.

DUBOS, RENÉ JULES editor

Bacterial and mycotic infections of man. Second edition. 98 illustrations. Philadelphia J B Lippincott Company 1952 886 p. illus. 26 cm. $7 50 916

Contents. A synopsis of the history of medical bacteriology by E. G. D Murray. The morphology and the physiology of bacteria, by R. J Dubos and others. Parasitism and disease, by T. Francis, Jr. Properties of bacteria which enable them to cause disease, by C. M. MacLeod and A. M. Pappenheimer Jr. Response of the host to the parasite, by T Francis, Jr. Serology and immunochemistry by H. P Treffers. Human blood groups, by P Levine. The allergic state, by M. W Chase. The diphtheria bacilli and the diphtheroids, by J H Mueller. The Pneumococcus, by C M. MacLeod. The streptococci, by H. F Swift. The Mycobacteria, by G. Middlebrook and J. Freund. The Staphylococci, by J E Blair. The anthrax bacillus, by W J Nungester. The Clostridia, by G B Reed. The enteric bacteria, by H. R. Morgan and F S. Cheever. The Salmonella, by H. R. Morgan. Bacillary dysentery and the Shigella, by F S. Cheever. Pasteurella, by K F Meyer. The Brucella, by S Elberg. Listeria and Erysipelothrix, by T H Weller and C A. Janeway. The cholera vibrios, by A T Wilson. The hemophilus group, by H. E. Alexander. The pertussis group, by W L. Bradford. The meningococci, by E. B. Schoenbach. The gonococci, by J. F Mahoney and J. D Thayer. The spirochetes, by H. Eagle. The Bartonella group, by D. Weinman. Streptobacillus moniliformis, by A. B. Sabin. The pleuropneumonia group, by A. B. Sabin. The Actinomycetes, by N F Conant and T Rosebury. Medical mycology by N. F Conant. Bacteria indigenous to man, by T Rosebury. Principles of sterilization, by B. D. Davis. Principles of chemotherapy by B. D Davis and W McDermott. Principles of epidemiology by K. F Maxcy. Applied medical bacteriology by G. G. Kalz and E. G. D Murray. Appendix. Bibliographic index. Subject index.

Note. (772) A comprehensive, well-arranged textbook of medical microbiology written for students and practitioners. Each chapter is the work of an authority in the field. Unity of presentation is achieved by the common emphasis on the host parasite relations and on the pathogenic properties of the parasites. The discussions of the various bacilli and fungi follow the same pattern and provide information on history morphology cultivation, diagnosis, treatment, and epidemiology. The first edition appeared in 1948. In the second edition the book is 100 pages longer. A new final chapter has been substituted for the former one on the cultivation and identification of pathogenic bacteria, and revisions have been made in other chapters where new knowledge was available. Also, recent literature has been added to the extensive bibliographies. The "Bibliographical index" includes the names of authors of all of the cited literature.

KELLY, FLORENE CORA, AND K. EILEEN HITE

Microbiology Introduction by G M. Dack. New York Appleton-Century-Crofts, Inc., 1949 592 p. illus. 24 cm. $5.50 917

Contents (abridged) Part 1 Introduction to the microscopic world. The protozoa. The algae. The fungi. The bacteria. The rickettsiae and viruses. Part 2 Methods for studying microorganisms: The microscope and microscopic methods. Cultivation of microorganisms. Pure culture methods and the identification of bacteria. Part 3, The physiology of bacteria: Nutrition and respiration. Protein metabolism. Activities of bacteria in nature and industry. Part 5, Antimicrobial methods: Bacteriostasis and disinfection. Surgical and medical asepsis. Chemotherapy. Part 6, Microorganisms and disease. Parasitism and pathogenicity. Resistance to infection—immunity. Part 7 Pathogenic microbiology: Staphylococci. Streptococci. Pneumococci. The spore-forming bacteria. The mycobacteria. The spiral bacteria. The genus Hemophilus. The genus Brucella. The spirochetes. The rickettsial diseases. Virus diseases. The pathogenic higher fungi. Protozoa of medical importance. Appendix. Index.

Note: An introductory textbook designed for students who have prospective professional interest in the subject. In other words, it is for students who want thorough rather than superficial knowledge. Reasonably full discussions of basic matters and techniques are included along with condensed descriptions of pathogenic organisms in which the main emphasis is on relation to disease. The reference material includes a chronological arrangement of developments in microbiology, formulas for stains, indicators, culture media, etc.

KNAYSI GEORGES

Elements of bacterial cytology Second edition. Ithaca, New York Comstock Publishing Company Inc. associated with Cornell University *Press* 1951 375 p. illus. 24 cm. $5 00 918

Contents. Form and size of the bacterial cell. Chemical composition and structural organization. Cytoplasm and cytoplasmic membrane. The nucleus. The cell wall and slime layer. Physicochemical properties of the bacterial membranes. Vegetative reproduction. Vacuoles and inclusions. The motion of bacteria. The spore of bacteria. Staining. Bacterial cultures. Cytology of the Actinomycetes. Cytology of the Spirochetes. Cytology of the Myxobacteria. Bibliography. Index.

Note. (1975) The standard treatise on the bacterial cell. In it the established knowledge is organized and expertly presented together with references to the source articles. The book is addressed to advanced undergraduate students of bacteriology and its coverage is thorough enough to make it useful also to graduate students in this field. The first edition was published in 1944. In this edition the work has been considerably enlarged and a good portion of it revised. There are 124 figures and 49 plates.

PRESCOTT SAMUEL CATE AND CECIL GORDON DUNN

Industrial microbiology Second edition. *New York McGraw Hill* Book Company, Inc., 1949 923 p illus. 23 cm. $9 50. 919

Contents (abridged) Saccharifying agents—methods of production and uses. The production of industrial alcohol by fermentation.

Facts and theories concerning the mechanism of the ethyl alcohol fermentation. Brewing. Wine. The distilling industries. Production of yeast and yeast products. The glycerol fermentation. The acetone-butanol fermentation. The acetone-ethanol fermentation. The butyl alcohol-isopropyl alcohol fermentation. The acetic acid bacteria and some of their biochemical activities. The production of lactic acid by fermentation. Sauerkraut. Pickles. Some fermented milk products. Cheese. The propionic acid fermentation. The production and properties of 2,3 butanediol. Some minor bacterial activities with industrial implications. The molds. The citric acid fermentation. The gluconic acid fermentation. The fumaric acid fermentation. The gallic acid fermentation. The itaconic and itatartaric acid fermentations. The kojic acid fermentation. The production of lactic acid by molds. Mannitol production by molds. Mold enzyme preparations—uses and products. The production of fat by molds. Some minor chemical activities of the lower fungi. Antibiotics. Textile microbiology. The microbiology of wood. Appendices: Detergency, *disinfection, and sterilization. The treatment and disposal of industrial microbiological wastes.* Index.

Note: (1941) This work is both text for college students who have completed introductory courses in such fields as bacteriology and organic chemistry and reference guide for industrial chemists and other technical personnel in industries making use of fermentation. The new edition covers the advances in the field since the publication of the first edition in 1940. Extensive portions were rewritten and new chapters were added, covering the new processes of saccharification, the production and properties of 2,3 butanediol, the itaconic and related fermentations, etc. There are now twice as many illustrations and the volume is almost 400 pages longer.

SPOEHR HERMAN AUGUSTUS AND OTHERS

Fatty acid antibacterials from plants. By H. A. Spoehr J H. C. Smith, H. H. Strain, H. W Milner and G J Hardin. Carnegie Institution of Washington, Division of Plant Biology Stanford California. Washington, D C. Carnegie Institution of Washington, 1949 67 p. illus 25 cm. (Carnegie Institution of Washington. Publication 586) Paper $0 50 Cloth, $0 75 920

Contents Introduction. The large-scale culture of *Chlorella pyrenoidosa.* The extraction of antibacterial material from culture solutions. *Chlorella* cells as source of antibacterial material. Nature of the fatty acids extracted from *Chlorella* cells. Antibacterial material from other plant sources. Antibacterial activity of fatty acids. Antibacterial activit of the fatty acids obtained from the fruits of the California laurel.

Note The results of research project which had as its primary objective the isolation of antibacterial substances from autotrophic organisms are reported in this pamphlet. Culture methods and the techniques of separating the active material from the plants are fully described. An unexpected discovery was that freshly prepared plant extracts showed little or no antibacterial activity but antibacterial properties were developed when the extracts were exposed to light and air It was found that this effect was due to the photo oxidation of certain fatty acids in the extracts and the project was then diverted to an investigation of the antibacterial activity of certain fatty acids of medium chain length.

WERKMAN CHESTER HAMLIN, AND P W WILSON editors

Bacterial physiology New York Academic Press, Inc., 1951 707 p. illus. 24 cm. $9.80 921

Contents: Chemistry of the bacterial cell, by G. Knaysi. The structure of the bacterial cell, by G. Knaysi. Inheritance, variation, and adaptation, by J Lederberg. Growth of bacteria, by I. C. Gunsalus. Physical factors affecting growth and death, by P Mitchell. Chemical factors affecting growth and death, by O. Wyss. Bacterial nutrition—chemical factors, by E. E. Snell. Bacterial enzymes and the theory of action, by F Schlenk. Anaerobic dissimilation of carbohydrates, by C. H. Werkman and F Schlenk. Bacterial oxidations, by E S G. Barron. Autotrophic assimilation of carbon dioxide, by J. W Foster. Assimilation of carbon dioxide by heterotrophic bacteria, by C. H. Werkman. Organic nitrogen, by E. F Gale. Biological nitrogen fixation, by P W Wilson. Mineral metabolism, by B. C. J. G. Knight. The comparative biochemistry of molecular hydrogen, by H. Koffler and P W Wilson. Assimilation by bacteria, by C. E. Clifton. Degradation and synthesis of complex carbohydrates, by H. A. Barker and W Z Hassid. Significance of autotrophy for comparative physiology, by W W Umbreit. Luminous bacteria, by F H. Johnson. Bibliography Subject index. Microorganism index.

Note: A book composed of original papers which are monographic in nature and heavily documented. However, comprehensive survey of the pertinent literature has not been attempted. Thirteen of the twenty papers deal with various aspects of the biochemistry of bacteria and, of course, some of the results reported are applicable to the biochemistry of higher organisms. The short paper by Umbreit is potentially of interest to most persons concerned with biological research. The book is designed mainly for graduate students majoring in bacteriology and biochemistry

TEXTBOOKS

BIRKELAND JORGEN

Microbiology and man being an account of the diverse properties and characteristics of microorganisms, a description of the various tools and techniques for their handling, and an inquiry into their subtle relationships to everyday life. Second edition. Baltimore Williams & Wilkins Company 1949 525 p. illus. 23 cm. $5 00. 922

Contents (abridged) Section I, Fundamentals of microbiology: How we study microorganisms. Biological characteristics of microorganisms. Microorganisms and the carbon and nitrogen cycles. Bacterial heredity and variation. How the environment affects microorganisms. Antibiosis and antibiotics. Section II, Infection and resistance: How the body defends itself against infection. Epidemiology or the natural history of disease. Section III, Common infectious diseases. Section IV Microbiology of air food, milk, water sewage, and soil: Bacterial warfare. Glossary References. Index

Note: (1954a) An introductory textbook primarily for college courses offered to students who need general knowledge of bacteriology but do not plan to do advanced work in the subject. Emphasis is on the methodology of bacteriological research and on the application of the knowledge of bacteriology to personal and community health. In this edition the work has been rather extensively revised. The taxonomic material included in the first edition has been deleted. Six new chapters have been added.

BURROWS WILLIAM

Jordan-Burrows textbook of bacteriology By William Burrows. With the collaboration of Francis Byron Gordon Richard Janvier Porter and James William Moulder Fifteenth edition. Philadelphia W B Saunders Company *1950 981* p illus. *24* cm. $9.50 923

Contents (abridged) Laboratory methods for the study of bacteria. Bacterial physiology The effect of physical and chemical agents on bacteria. Bacterial heredity and variation. The transmission of infection. The bacteriology of water and sewage. The bacteriology of milk and food. Immunity—antigens, antibodies and the antigen-antibody reaction. The staphylococci. The streptococci. The pneumococci. The enteric bacilli. The cholera vibrio and related forms. Brucella. Pasteurella. The hemophilic bacteria. Bacillus—the spore-forming aerobes. Clostridium—the spore-forming anaerobes. Mycobacterium. Medical mycology—the pathogenic actinomycetes, molds, yeasts, and related microorganisms. The spirochetes. Medical parasitology by R. J. Porter. The rickettsiae. Virus diseases of man by F B. Gordon. Bacteriophage. Index.

Note. (*784) A standard textbook addressed to students in medical colleges and to other students with professional interests in applied bacteriology. Practically all microorganisms of clinical interest are described. The fourteenth edition appeared in 1946. This edition exhibits important changes in *the number of sections.* The second chapter on laboratory methods has been completely rewritten. A considerable number of illustrations have been added including variety of electron microphotographs.

FROBISHER MARTIN JR.

Fundamentals of bacteriology Fourth edition, illustrated. Philadelphia W B Saunders *Company 1950. 936* p. *illus. 22* cm. o.p. 924

Contents (abridged) Section I, First principles: The place of microorganisms in the organic system. Optical methods in microbiology Morphology and structure of bacteria. Environmental factors in microbiology The cultivation of microorganisms. Methods of

systematic study of bacteria. Sterilization and disinfection. Enzymes and microbiology. The metabolism of microorganisms. Immunology and microbiology. Microorganisms and disease. Section II, Yeasts, molds and higher bacteria. Section III, The true bacteria (order Eubacteriales) (suborder Eubacteriineae); The microbiology of the soil. The microbiology of the air. The microbiology of milk. The microbiology of foods. Microbiology and industry. Bacterial diseases of plants. Section IV, Some pathogenic microorganisms. The pathogenic Enterobacteriaceae. Diplococcus pneumoniae and pathogenic streptococci. Diphtheria, tuberculosis, leprosy. The genus Neisseria. The "little bacteria." The viruses. The Rickettsiae. The pleuropneumonia-like organisms. The pathogenic Protozoa. Index.

Note: (1940) An established introductory textbook which is used in courses offered to premedical students and other college students in need of more than a general knowledge of microbiology. The section and chapter titles indicate the wide scope. As might be expected, the main emphasis is on public health and medical aspects. The third edition was published in 1940. Many new topics have been introduced in this edition and the treatment of many carried over from the preceding edition has been modified in order to include developments of the past decade. The chapter on the microbiology of foods is a new addition. Recent literature has been added to the extensive bibliographies. The book now contains 420 figures.

SARLES, WILLIAM BOWEN AND OTHERS

Microbiology general and applied. By William Bowen Sarles, William Carroll Frazier, Joe Bransford Wilson and Stanley Glenn Knight. New York Harper & Brothers, 1951 493 p. illus. 24 cm. $4 50 925

Contents (abridged) Part I, An introduction to the microorganisms. Part II, The physiology of microorganisms. Part III, Cultivation, observation and classification of microorganisms. Part IV, Microorganisms in industry. Part V, Soil microbiology. Part VI, Microbiology of sewage, water and air. Part VII, Microbiology of foods. Part VIII, Infectious diseases of animals and plants. Part IX, An outline of the history of microbiology. Appendixes. Index.

Note: An introductory textbook for use in college courses. The part on infectious diseases in animals and plants is less than 100 pages long; and the rest of the book is devoted to the aspects of microbiology which are not related to disease. Applications of microbiology in industry and agriculture are somewhat emphasized. The authors are faculty members of the Department of Bacteriology of the University of Wisconsin, and the book was developed there.

SMITH, DAVID T AND OTHERS

Zinsser's textbook of bacteriology By David T Smith, Norman F Conant, Joseph W Beard, Hilda Pope, D Gordon Sharp, and Mary A. Poston Tenth edition New York Appleton-Century-Crofts Inc. 1952 1012 p. illus. 25 cm $11 00 926

Contents (abridged) The general biology of bacteria and the general methods of bacteriology. Outline of the history and scope of bacteriology. Classification of bacteria. General morphology and reproduction of bacteria. Variability of bacteria. Growth of bacteria. Metabolism of bacteria. Effects of sulfonamides, antibiotics and chemical agents. Bacterial ecology and flora of the normal body. Infection and immunity. Pathogenic microorganisms. The spirochetes. The pleuropneumonia group of organisms. Rickettsiae and the rickettsioses. Diseases caused by the filtrable viruses. Medical mycology. Technical methods: Bacteriology, immunology and serology. Appendix: Antigenic structure of the Salmonella. Index.

Note: (791) The first edition of this work appeared in 1910 and it has been extensively used as a text in schools of medicine and public health ever since that year. The subject is covered from the standpoint of the biology of the microorganisms and the host; nevertheless most of the space is given to specific information on diseases, disease control, and other topics of interest in medicine and public health. In preparing this edition the information on diseases caused by viruses has been much expanded, and information has been added on the effects of ACTH, cortisone, and the recently developed antibiotics on specific microorganisms.

IMMUNITY

KAHN, REUBEN LEON

Serology with lipid antigen with special reference to Kahn and universal reactions. Baltimore The Williams & Wilkins Company 1950 327 p. illus. 24 cm. $6 00. 927

Contents (abridged) Part I, Introductory: Biologically universal nature of the serologic reaction given by syphilis tests with lipid antigen. The universal serologic reactions with lipid antigen. Part II, Serology of syphilis—with Kahn procedures. The serology of syphilis—historical. Practical aspects of standard Kahn reaction. The quantitative Kahn reaction with serum. The presumptive reaction. The standard Kahn reaction with spinal fluid. The standard Kahn reaction with cardiolipin antigen. Potentialities of the serology of syphilis for rendering greater assistance. Serologic aid in the detection of false positive reactions. Optional some reaction 1) in different situations in syphilis and 2) in the detection of "false negatives." Part III, Technique of Kahn procedures: The performance of serologic tests for syphilis—a high responsibility. The Kahn procedures. Antigens and their standardization. Author index. Subject index.

Note: The viewpoint taken in this monograph by the discoverer of the famous Kahn test is that "the serology of syphilis is part of a far more comprehensive serology with lipid antigen." In this work the author has covered the broader field. The discussion of each subtopic named in the chapter titles is thorough and is supplemented by literature references. Kahn and related procedures are described in detail.

SEVAG, MANASSEH GIRAGOS

Immuno-catalysis and related fields of bacteriology and biochemistry (Second edition, revised and enlarged.) With a preface by Stuart Mudd. Springfield, Illinois Charles C Thomas 1951 547 p illus. 23 cm. $12,00 928

Contents (abridged) Part I, Antigens as biocatalysts. Part II, Mechanism of antibody formation. Part III, Antibody as specific enzyme inhibitor. Part IV, Anti-enzyme immunity. Part V, Antibodies against respiratory enzymes. Part VI, Physiology and biochemistry of shock. References. Author index. Subject index.

Note: A notable study in which the author has integrated wide ranges of knowledge to support his central theme that the production of antibodies and substances which inhibit the activities of enzymes, etc., is a catalytic reaction. He emphasizes the parallels between bacteria and their corresponding antibodies and enzymes and their inhibitive reaction products. He states "practically all proteins foreign to the species present special sort of biocatalytic power, namely that of stimulating and directing specifically the synthesis of antibody. The results of certain studies would seem to show that under appropriate conditions specific activity as enzyme and as antigen may and frequently do in fact reside in the same specific chemical configurations of the protein molecule." The book is organized as a monograph with references from text statements to the 53-page bibliography. The first edition appeared in 1945. It was substantially revised and augmented for this edition.

SHERWOOD, NOBLE PIERCE

Immunology Third edition. Illustrated. St. Louis The C. V Mosby Company, 1951 731 p. illus. 22 cm. $8 50. 929

Contents (abridged) Infection and infectious agents. Inflammation and leucocyte response. Anatomical and physiological factors in infection and resistance of the individual. Natural and acquired immunity. Immunity mechanisms in experimental infections. Complement. Blood groups. The Rh and Hr factors of human blood. Measurement of antibodies. Mechanism of antigen-antibody reactions—cellular agglutination. Precipitins. Toxins and antitoxins. Normal, convalescent, and immune sera. Biological and antigenic specificity. Modified and conjugated antigens. Bacterial antigens and specificity. The importance of antibodies in diagnosis. The basis of bacterial complement fixation technique. Flocculation tests in syphilis. Hypersensitiveness. The significance of allergy in tuberculosis and a few other diseases. Colloids. Authors index. Subject index.

Note: (1591) A standard treatise which was used as a text in medical schools and as a survey and guide to the literature by medical graduates. The field is covered in a compact style with frequent references to the source literature. Extensive bibliographies are included in the chapters. Although intended primarily for students who will make clinical applications of the knowledge, the clinical aspects are not emphasized over the fundamental knowledge. The second edition was published in 1941. Important revisions were made throughout the work in preparing this edition. These include changes in the text of many chapters and additions to the bibliographies.

MEDICINE

GENERAL

AMERICAN MEDICAL ASSOCIATION

Standard nomenclature of diseases and operations. By Richard J Plunkett, editor and Adaline C. Hayden, associate editor Fourth edition. Philadelphia The Blakiston Company 1952 1034 p. illus. 22 cm. $8.00. 930

Contents (abridged) Instructions to medical record librarians. Scheme of classification. Nomenclature of diseases. Nondiagnostic terms for hospital records. Supplementary terms. Operations, introduction. Classification of operative procedures. Nomenclature of operations. Anesthesia section. Disease index. Operation index. Appendix. Code numbers of International list of causes of diseases, injuries and causes of death cross-indexed to "standard" code numbers.

Note: (1216) The standard U. S. authority on nomenclature and classification of diseases and operations and on records pertaining thereto. The present edition represents an extensive and careful revision. Among the important changes is the inclusion of code numbers that correlate this work with the *International statistical classification of diseases, injuries, and causes of deaths.*

ANNUAL REVIEW OF MEDICINE. Volume 3 Windsor C. Cutting editor Henry W Newman, associate editor Stanford, Calif Annual Reviews Inc. 1952 442 p. 23 cm. $6.00. 931

Contents: Infectious diseases (the effects of cortisone and adrenocorticotropic hormone on infection) by L. Thomas. Diseases of the gastrointestinal tract, by W Volwiler Diseases of the cardiovascular system, by T Winsor Diseases of the urinary system, by J A. Luetscher Jr Nutrition and nutritional diseases, by L. H. P Davies Diseases of the reproductive system, by J W McArthur. Psychiatry by J. Ruesch Anesthesia, by W Bourne and R. G. B. Gilbert. Radiology by R. A. Harvey Radioactivity (effects of whole body irradiation) by E P Cronkite and G. Brecher. Diseases of the eye, by I. H Leopold and A. H. Keeney Laboratory aids to diagnosis and therapy by I. Davidsohn. Toxicology by L. T. Fairhall. Neoplastic diseases, by D A Karnofsky Diseases of the nervous system, by H. Jasper and W Feindel. Diseases of the reticuloendothelial system and hematology (immunological sciences), by G. Carpenter Diseases of the respiratory system, by M D D'Esopo and E. M Medlar. Annotated list of reviews in medicine, by R. M. MacKay Indexes.

Note: The editors of the present volume of this series have stated in the Preface: "[The] design has been that each section shall be written by an authority in the field concerned, and that it shall be a discussion of the subject in the light of the contemporary literature and the author's special knowledge, rather than a cataloguing of references or stringing together of abstracts Accordingly critical comments and references to reviewers' experiences are found in many of the chapters; however the familiar pattern of terse abstracts blended together so as to form a narrative account has not been avoided Specific statements in the narrative are keynumbered to citations of the source articles. A detailed subject index covers the contents of the volume and an author index includes the names of all authors of cited papers. Particular attention is called to the final section, which is a classified and briefly annotated list of the papers published between January and October, 1951 in which specific areas of medicine are reviewed comprehensively with literature references.

GLASSER, OTTO editor

Medical physics. Volume II. Editor-in-chief Otto Glasser Editorial assistant, Jessie C. Tucker Chicago The Year Book Publishers, Inc., 1950. 1227 p. illus. 28 cm. $25.00. 932

Note (1946) A cyclopedic reference book of physical knowledge applicable to medicine. The first article deals with the high energy electron accelerators such as the cyclotron which are used in nuclear research; a series of articles covers what the editor has termed "bioelectricity"; there is a collection of articles on the digestive tract; one on radiation; another on roentgen rays, etc. Although a few articles are short the typical article is several pages in length. Articles are signed with the names of the authors and contain bibliographies. There is a fully detailed subject index.

GREEN, DAVID EZRA AND W EUGENE KNOX, editors

Research in medical science. New York The Macmillan Company 1950. 492 p. illus. 24 cm. $6 50 933

Contents: Bacteriophages and their action on host cells, by T F Anderson. Viruses, by F M. Burnet. Rickettsial diseases, by H. M. Rose. Epidemiology by J. R. Paul. The methodology of medical genetics, by L. Hogben. Anthropology, by M. F Ashley Montagu. Immunochemistry by R. A. Kabat. Enzyme chemistry and physiologic mechanisms, by W E. Knox. Chemotherapy by E. Q. Baldo, Jr. Microorganisms and vitamin research, by D. D Woods. The biosynthesis and metabolism of porphyrins—an illustration of the use of isotopes in biologic and medical research, by D. Shemin and I. M. London. Differentiation and specialization of biologic media, by J. P Peters. Kidney physiology by R. F Pitts. Pulmonary physiology by D W Richards, Jr Liver injury by P György The role of hepatorenal vasotropic principles in experimental shock, by E. Shorr and others. Plasma proteins in the investigation of disease mechanisms, by S. H. Armstrong, Jr Some aspects of red-cell production, by M. M Wintrobe Endocrinology in cancer research, by C. P Rhoads. Rheumatic fever—a disease for adventure, by A. F Coburn. Hypertension, by L. F Lewis. Pediatrics: Nuclear jaundice (kernicterus) in hemolytic disease of the newborn, by R. Day Congenital malformations, by T H. Ingalls. Galactosemia—glycogen storage disease, by H. H. Mason. The celiac syndrome, by D H. Andersen. The direction of surgical effort, by I. S. Ravdin. Neurology by J Elkin. Research in psychiatry, by K. A. Menninger. Some biochemical problems in military engineering, by A. Weissman.

Note The typical article in this book contains a brief outline of the development of study in the field of medical or biological research named in its title, describes the more important findings to date, and indicates probable lines of future development. Literature references are included for each article. The style is semi-technical and the book is suitable for persons who are thinking of entering research and for physicians, biochemists, and even laymen who want to get a view of the scope of the field or of the more significant discoveries.

HAWLEY PAUL RAMSEY

New discoveries in medicine their effect on the public health. New York Columbia University Press, 1950 134 p illus. 21 cm. $2.50. 934

Contents: Our fabulous blood—Part I, Early discoveries—Part II, Development of transfusion as a therapeutic technique—Part III, The Rh factor Modern surgery of the heart and lungs. Modern prevention and treatment of mental disease. The socio-economic aspects of medical care—Part I, Economic history of medical care—Part II, The prepayment principle.

Note. Collected in this book are the second series of Bampton Lectures in America, which were delivered at Columbia University in 1949 by the Director of the American College of Surgeons. They are addressed to laymen rather than to medical men and they provide readable and authoritative surveys for this audience of some important developments in medicine and surgery

McManus Joseph Forde Anthony, editor

Progress in fundamental medicine. 74 illustrations and 2 colored plates. Philadelphia Lea & Febiger, 1952 316 p. illus. (part col'd) 26 cm. $9 00. 935

Contents: Recent advances in parenteral nutrition with particular reference to protein hydrolysates, by P R. Cannon. Melanotic tumors of the skin, by J A. Cunningham. Pathology of systemic lupus erythematosus, by P Klemperer. The diagnosis of fungus infections with particular reference to staining methods, by A. M. Kligman. The liver, by G. K. Mallory and T B. Mallory A survey of techniques for the histochemical approach to pathology by J. F A. McManus. Coronary artery disease, by J. C. Paterson. The problem of carcinoma in situ with reference to the human cervix uteri, by L. D. Stoddard. The recognition of carcinoma in situ of the cervix uteri by Papanicolaou's method, by W K. Cuyler. Non-silica pneumonoconioses, by J P Wyatt. Index.

Note. A volume made up of original monographs in which the authors have appraised and interpreted significant recent advances in selected areas of medicine. The book is the result of planned effort to do justice to these advances by providing graduate medical practitioners with rather full accounts of them and by providing lists of the literature in which they were originally reported.

Mainland Donald

Elementary medical statistics the principles of quantitative medicine. Philadelphia W B Saunders Company 1952 327 p. illus. 22 cm. $5 00 936

Contents. The place of statistics in medicine. On looking at evidence. Estimating the error in enumeration data. Comparison of samples of enumeration data. Variation between measurements. Relationships between measurements—concomitant variation and trends. Statistical ideas in clinical medicine. Some further hints for investigators. Answers. References. Appendix. Index. Graphs.

Note: An introductory textbook in which the reader is introduced to certain basic statistical concepts and techniques, but in which the main emphasis is on the application of statistical techniques to medical research and other matters of medical interest. The author is Professor of Medical Statistics in the College of Medicine of New York University

Matsen Frederick Albert and others

Pre-medical physical chemistry by F A. Matsen, Jack Myers and Norman Hackerman. New York The Macmillan Company 1949 344 p. illus. 22 cm. $4 75 937

Contents (abridged) Mathematical introduction. Atomic structure. Molecular structure and intermolecular forces. Gases. Imperfect gases and the liquid state. The solid state. Elementary kinetics. Equilibrium and free energy Equilibria in one-component systems. Equilibria in two-component systems. Oxidation-reduction equilibria. pH and determination of pH. Titration. Buffers. Surface equilibria. Molecular orientation at interfaces. The colloidal state and physical means of its investigation. Electrokinetics. Stability of colloidal systems. Membrane phenomena. Biological energy exchanges. Appendices. Index.

Note: The chief topics in physical chemistry that are of interest in medicine are treated in this text for undergraduate college students who are preparing for medical schools. The topics are well chosen, and although the main emphasis is on basic matters, applications to biology and medicine are frequently pointed out in such sentences as A valuable technique in diffusion studies on biological materials is known as the *porous disk method.* The level of treatment assumes previous study of basic physics and general chemistry The authors are members of the faculty of the University of Texas.

Methods in medical research. Volume 2 Julius H. Comroe, Jr., editor in-chief Chicago The Year Book Publishers, Inc., 1950. 361 p. illus. 22 cm. $6 50. 938

Contents (abridged) Section I, Methods of study of bacterial viruses, by M. H. Adams, associate editor Section II, Pulmonary function tests, by J. H. Comroe, Jr., associate editor Section III, Assay of hormone secretions, by E. H. Venning, associate editor. Subject index. Name index.

—— Volume 3 Ralph W Gerard, editor in-chief Chicago The Year Book Publishers, Inc., 1950 312 p. illus. 22 cm. $7.00. 939

Contents (abridged) Section I, Genetics of micro-organisms, by S. E. Luria, associate editor. Section II, Assay of neurohumors, by J. H. Gaddum, associate editor. Section III, Selected psychometer measurement methods, by W R. Miles, associate editor. Section IV Methods for study of peptide structure, by C. H. Li, associate editor. Subject index. Name index.

—— Volume 4 Maurice B Visscher editor in-chief Chicago The Year Book Publishers, Inc., 1951 306 p. illus. 22 cm. $7.00. 940

Contents (abridged) Section I, Histochemical staining methods, by G. Gomori, associate editor. Section II, Fluid and electrolyte distribution, by L. B. Flexner associate editor. Section III, Studies on gastrointestinal pressures, innervation and secretions, by J. P Quigley associate editor. Section IV Tissue culture methods, by C. M. Pomerat, associate editor Subject index. Name index.

—— Volume 5 A. C. Corcoran, editor-in-chief Chicago The Year Book Publishers, Inc., 1952 394 p. illus. 22 cm. $7 50 941

Contents (abridged) Section I, Methods for separation of complex mixtures and higher molecular weight substances, by L. C. Craig, associate editor. Section II, Methods of renal study by A. C. Corcoran, associate editor Section III, Immunochemical methods for determining homogeneity of proteins and polysaccharides, by M. Cohn, associate editor. Subject index. Name index.

Note (901) This valuable series, initiated with the publication of volume 1 in 1948, has been continued by the volumes listed above. Each volume contains an assortment of original monographs on currently important or newly developed methods and techniques in medical research. As the titles show "medical research" has been interpreted broadly Many of the papers such as that by Pickels on ultracentrifugation are of interest in several fields of research. The papers are accompanied by bibliographies and are usually illustrated.

New York Academy of Medicine

Perspectives in medicine, the march of medicine, 1948 New York Columbia University Press 1949 183 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No. XIII) $2 50 942

Contents: The stars in civil life, by L. L. Strauss. Food and civilization, by Sir R. Cilento. On being old too young, by E. J. Stieglitz. Perspectives in cancer research, by C. P Rhoads. Psychiatry for everyday needs, by W C. Menninger. The inter-relation of pure and applied science in the field of medicine, by J. B. Conant. Index.

—— The future in medicine, the march of medicine 1949 New York Columbia University Press 1950 160 p 21 cm. (The New York Academy of Medicine. Lectures to the laity No. XIV) $2.50. 943

Contents. Law and medicine, by R. P Patterson. The scientist—servant or master? by E. Sharp. Science under dictatorship, by L. Alexander. Blood and man, by W C. Boyd. The criminal within us, by G. E. Gardner. Index.

—— Frontiers in medicine the march of medicine, 1950 New York Columbia University Press, 1951 150 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No. XV) $2.50. 944

Contents. Frontiers in psychiatry, by F Alexander. Mathematics—myth or promise, by D. Siegel. Frontiers in genetics, by L. H. Snyder. Machines that work like men, by J H. Gibbon, Jr. Bio-

logical aspects of antibiotics, by S. A. Waksman. Concepts and methods of medical research, by T. M. Rivers. Index.

Note. These books contain the lectures given in the 13th, 14th and 11th annual "Lectures to the laity" noted series in which eminent medical practitioners and scientists associated with research in the biological sciences interpret selected areas of their fields for the benefit of laymen. In most of the lectures there is some emphasis on recent advances. The series is both readable and authoritative.

SAPHIR, OTTO
Autopsy diagnosis and technic. Third edition revised and enlarged. Illustrated. Foreword by Ludvig Hektoen New York Paul B Hoeber Inc. 1951 471 p. illus. 20 cm. $6.50 945

Contents: The autopsy permit. General technical considerations. Unexpected death from natural causes and notes on accidental death. External examination—examination of the breast and serous cavities; removal of organs. Examination of the internal organs and tissues. Male genito-urinary tract. Rectum. Female genitalia. Neck organs and oral cavity. Nose and accessory sinuses. Esophagus, larynx, trachea, and bronchi. Chest organs. Gastrointestinal tract. Gallbladder and bile ducts. Liver. Pancreas. Spleen. Skull, meninges, ear, brain, hypophysis, and pineal body. Spinal cord. Peripheral nerves. Skeletal and muscle system. Blood dyscrasias. Autopsies on stillborns and infants. Anatomic findings in vitamin deficiencies. Notes on certain tropical diseases. "Do" or "don't" and certain suggestions for quick orientation. Note on autopsies on embalmed and decomposed bodies. Weights and measurements of organs. Index.

Note: (2006) A standard manual of detailed directions for determining the causes of death on the basis of systemic pathology. Techniques of dissection and diagnostic examinations are explicitly described. The second edition was published in 1946. Useful additions and revisions including one new chapter have been made in this edition.

STUDIES IN MEDICINE A VOLUME OF PAPERS IN HONOR OF ROBERT WOOD KEETON Springfield, Illinois Charles C Thomas, 1951 396 p illus. 24 cm. $8 50. 946

Contents: Robert Wood Keeton, by L. H. Sloan. Bibliography of Robert W. Keeton. The relation of serum colloid osmotic pressure to electrophoretically corrected electrophoretic protein distribution during spontaneous remission of severe nephrosis, by R. H. Armstrong, Jr., and others. Physiologic and clinical basis for sympathetic denervation as therapy in peripheral vascular disorders, by D. I. Abramson. A stereotaxic instrument for use on the human brain, by P. Bailey and S. N. Stein. Some small studies in blood clotting, by C. La Flure-Birch. Gastrectomies—its causes and consequences, by A. J. Carlson and F. Hoelzel. The role of nutrition in surgery by W. H. Cole. Management of diabetes in children, by A. E. Colwell. The control of environmental factors in clinical research, by M. K. Fahnestock and others. The role of protein in liver disease, by E. F. Foley and M. A. Spellberg. Psychiatric implications of dental disease, by F. J. Garty and others. The diagnosis of congenital stenosis of the pulmonic valve with associated muscular septal defect, by R. L. Grissom and others. Studies on factors controlling cholesterol synthesis in the body by R. G. Gould. The present status of knowledge concerning gastrin, by M. I. Grossman and A. C. Ivy. Circulatory failure as cause of fever, by F. K. Hick and M. M. Montgomery. The art of using lantern slides, by T. S. Jones. Nutritional and endocrinological relationships in cirrhosis of the liver by R. M. Kark and M. G. Galloway. The microdeterminations of lipids—the synthesis of labile phosphorus compounds of the phospholipids by reaction with monobasic sodium phosphate, by A. B. Kendrick. The pathologic physiology of the upright posture, by F. C. Landrum. Unusual and diagnostic bone marrow patterns, by L. R. Limarzi and others. The progress of applied pharmacology during Dr. Keeton's life, by H. A. McGuigan. Some metabolic aspects of obesity in man and animals, by H. H. Mitchell. Viscosity studies in whole blood following the administration of heparin, dicumarol and paritol C, by L. A. Malachi and others. Outline of course in practical nutrition for medical students, by E. S. Nelson. Primary tumors of renal pelvis and ureter by V. J. O'Conor. Allergy and immunity to insulin, by H. T. Ricketts and M. G. Goldner. Comments regarding the etiology of sarcoidosis, by A. Rostenberg, Jr. Observations on the behavior of ceruloplasmin, by M. Sacks and others. Fatty hepatitis, by F. Steigmann. Chronic ulcerative colitis—clinical and bacteriological response to aureomycin, by M. H. Streicher. Clinical applications of ACTH and cortisone.

Note: Organized on the familiar *Festschriften* plan, this book contains original papers authored and titled as noted above. Some of the papers incorporate the results of very recent research, some of it hitherto unpublished. Bibliographical references are included with many of the papers.

UNITED STATES ARMY MEDICAL LIBRARY
Army Medical Library catalog 1951 Washington The Library of Congress, 1952 866 p 30 cm. 947

Note. An annual catalogue based on cards printed by the Library of Congress for the Armed Forces Medical Library (formerly called the Army Medical Library). It corresponds to but does not exactly coincide with current accessions. This issue is the fourth in the series, of which the first volume was based on cards printed April-September, 1948. The scope of the catalogue is described as follows, "The 1951 *Army Medical Library catalog* is issued in two parts. Part one, *Authors*, and Part two, *Subjects*. Medical titles published prior to 1921, except bibliographies, biographies, and materials of similar types, are not subject headed in the Army Medical Library; therefore, the subject list does not include those pre-1921 titles included in the author list. Pre-1801 titles and Americana titles through 1820, catalogued in the History of Medicine Division, are not included in the 1951 *Army Medical Library catalog*.

UNIVERSITY OF PENNSYLVANIA. GRADUATE SCHOOL OF MEDICINE
Advances in medicine and surgery Philadelphia W B Saunders Company 1952 441 p. illus. 25 cm. $8.00. 948

Content (abridged) The present status of adrenal cortical hormones. The role of potassium in health and disease. Hypertension newer aspects of medical and surgical treatment. Newer concepts in preoperative evaluation and preparation of patients. Thromboembolism. Pulmonary infections. The relief of pain. Current status of the cancer problem. Recent developments in viral diseases. Functional disorders. Index.

Note. Collected in this volume are some 50 short papers originally presented in course at the University of Pennsylvania, designed "to serve as continuing source of educational material for alumni of the school. The several papers on topic such as viral diseases cover both the fundamental and clinical advances and sum up the significant literature. Bibliographies are included. A majority of the authors are faculty members of the Medical School of the University of Pennsylvania.

DICTIONARIES

DE VRIES LOUIS AND OTHERS
German English medical dictionary New York McGraw-Hill Book Company Inc., 1952 586 p. 24 cm. $12 50 949

Note: This work gives the English equivalents of 40,000 German terms and is meant to be desk book for physicians and others who read or translate medical literature written in German. Terms from related fields, such as psychiatry, physiology and pharmacology are included. Idioms and verbs in the past tense are translated, but definitions, pronunciations, and abbreviations are not given. The author who had the assistance of sixteen medical collaborators is an established authority in the science dictionary field.

DORLAND WILLIAM ALEXANDER NEWMAN
The American illustrated medical dictionary a complete dictionary of the terms used in medicine, surgery dentistry pharmacy chemistry nursing, veterinary science, biology and medical biography with their pronunciation, derivation and definition. Twenty second edition with 720 illustrations, including 49 plates. Editorial board Richard M. Hewitt and others. Contributors Lloyd W Daly and Austin Smith. Philadelphia W B

Saunders Company 1951 1736 p. illus (part col d) 25 cm. $11 50 950

Note: ($10*) One of the standard comprehensive medical dictionaries. In this semi-centennial edition (it first appeared in 1900) there has been considerable revision and the type has been reset. An article on medical etymology by Lloyd W Daly has been added as new feature at the beginning of the book, and at the end of the book there is reference table of modern drugs and dosages compiled by Austin Smith.

GOLDBERG, MORRIS

Spanish English chemical and medical dictionary comprising terms employed in medicine, biochemistry surgery dentistry veterinary biology, pharmacy, allied sciences and related scientific equipment. New York Mc Graw Hill Book Company Inc., 1952 608 p. 24 cm. $17 50 951

Note ($12*) A complement to the author's *English-Spanish chemical and medical dictionary*, New York, 1947 The number of Spanish words for which English equivalents are given is about 32,000. Renderings are brief, not encyclopedic; for instance, "anaritmia, f., anarithmia, form of aphasia characterized by an inability to count. However short definition is always given in addition to the English equivalent of the Spanish term.

JONES HAROLD WELLINGTON, AND OTHERS editors

Blakiston s new Gould medical dictionary A modern comprehensive dictionary of the terms used in all branches of medicine and allied sciences including medical physics and chemistry dentistry pharmacy nursing, veterinary medicine, zoology and botany as well as medicolegal terms with illustrations and tables. Editors Harold Wellington Jones Normand L Hoerr Arthur Osol with the cooperation of an editorial board and 80 contributors. 252 illustrations on 45 plates 129 in color Philadelphia The Blakiston Company 1949 1294 p illus. (part col d) 25 cm. $9 50 952

Note: ($011) The present edition of this standard work is not revision in the usual sense of the term, but is completely new work, edited without regard to preserving matter in previous editions. There are three distinct parts: the vocabulary of 1156 pages, the illustrations (partly colored) on 45 plates, and the tables covering pages 1157–1294 Defined words and terms are arranged two columns to the page and are listed in boldface type with definitions indented, so as to facilitate use. Pronunciations and derivations are given. Terms of medical nature are listed and defined under the common part of the term, g., under *reaction* are defined 78 different specified reactions, under *reagent* are defined 46 different specified reagents, under *soap* 13 soaps, under *sodium* 64 sodium compounds, under *test* 400 tests are defined Medical abbreviations are likewise defined in the main vocabulary Also included are short biographical sketches of persons prominent in medical history The appendix contains 32 extensive tables.

PEPPER, OLIVER HAZARD PERRY

Medical etymology the history and derivation of medical terms for students of medicine, dentistry and nursing Philadelphia W B Saunders Company 1949 263 p 24 cm. $5 50 953

Contents Part I, Introduction Background of medical terminology Prefixes, suffixes, compounds & transliteration. Eponyms and onomatopoetic words. Part II, Preclinical subjects: Anatomy Physiological chemistry Physiology Pathology Bacteriology Pharmacology and therapeutics. Parasitology Part III, Clinical subjects: Medicine. Surgery Pediatrics. Neurology Gynecology and obstetrics Ophthalmology Dermatology Otolaryngology Psychiatry Radiology. Part IV Dentistry: Dental terminology Index of words.

Note: The greater part of this book is taken up with lists of terms arranged under the areas of medicine and the background sciences listed above. Each list of terms is arranged as in dictionary and for each term the following information is usually given: the Greek or Latin source word, English definition of the source word and short comment that throws light on how the term came to be applied. A typical entry follows: acinus. L. acinus — grape. Anyone would naturally be reminded of bunch of grapes by the masses of small, rounded sacs of glandular structure. The book is useful not only to beginning medical students but also as general reference work on the origins of medical terms.

SKINNER, HENRY ALAN

The origin of medical terms. Baltimore The Williams & Wilkins Company 1949 379 p. 26 cm. $7 00 954

Note A reference book for medical students and other nonspecialists in etymology A certain amount of encyclopedic information is included. The source word is always given as is customary in etymological dictionaries, and this information is frequently supplemented by discussion—sometimes many sentences in length—in which is gi en historical and general information on the early uses of the word. Another feature is the inclusion of short biographical sketches of prominent physicians and other persons who made some contribution to the development of medicine. The author is Professor of Anatomy in the University of Western Ontario.

TAYLOR, NORMAN BURKE editor

Stedman s medical dictionary of words used in medicine with their derivations and pronunciation including dental, veterinary chemical, botanical, electrical life insurance and other special terms, anatomical tables of titles in general use, the terms sanctioned by the Basle anatomical convention the new British anatomical nomenclature pharmaceutical preparations official in the U S. and British Pharmacopoeias or contained in the National Formulary and comprehensive lists of synonyms biographical sketches of the principal figures in the history of medicine. Edited by Norman Burke Taylor in collaboration with Allen Ellsworth Taylor Seventeenth revised edition with etymologic and orthographic rules Baltimore The Williams and Wilkins Company 1949 1361 p. illus. (part col d) 25 cm $8.50 955

Note ($13*) A standard work that has held place for many years as one of the world' chief dictionaries of medical terms. Definitions are adequately full and etymology and pronunciation are given for most of the words defined. A selection of abbreviations is included in the main alphabet. Some trade names are included but there are fewer in this 17th edition than in previous editions. Special reference features include preliminary essay on medical etymology, tables of weights and measures, temperature and barometric scales, and comparative table of anatomical nomenclature. The 16th edition was published in 1946. Both deletions and additions of terms were made throughout the alphabet in preparing this edition Two categorical changes were made deletion of most of the trade names and addition of the full names, nationalities, professions, and years of birth and death of men whose names are identified with theories, tests, techniques, etc.

HISTORY

FULTON JOHN FARQUHAR

The great medical bibliographers a study in humanism. Philadelphia University of

Pennsylvania, 1951 107 p illus. 22 cm. (The Rosenbach Fellowship in Bibliography Publications) $4 00. 956

Contents: The beginnings: Trithemius, Champier and Gesner. The seventeenth and eighteenth centuries: medical book sales, Beughem, Van der Linden, Haller and the rise of medical bibliography. Medical subject indexes: Ploucquet, Forbes, Callisen, and Billings. [illegible] and Osler; Keynes and the rise of personal bibliography. Appendices. Index.

Note: The history of medical bibliography is skillfully outlined in this collection of lectures that were delivered in 1950 on the A. S. W. Rosenbach Fellowship in Bibliography at the University of Pennsylvania. The bibliographical accomplishments of the great medical bibliographers are emphasized, but there is enough on their other accomplishments and personal life to make the account interesting. Among the appendix material is a list of early sale catalogues of medical books, bibliographical descriptions of the *Haller Bibliothecae* and descriptions of the bibliographies of Geoffrey Keynes. The illustrations include reproductions of portraits and facsimiles of title pages. The author, himself a noted contributor to medical bibliography, is Sterling Professor of the History of Medicine in Yale University School of Medicine.

FULTON JOHN FARQUHAR

Logan Clendenning Lectures on the History and Philosophy of Medicine. First series I, Vesalius four centuries later II Medicine in the eighteenth century Lawrence, Kansas University of Kansas Press, 1950. 52 p. 22 cm. (University of Kansas. Logan Clendenning Lectures on the History and Philosophy of Medicine. First series) $1 00 957

Note: This book contains two original lectures by an eminent authority on medical history. In the first lecture the author brings out some high points in the life of Vesalius, then discusses from the historical point of view Vesalius' *Tabulae sex*, *Fabrica* and *Epitome*. In the second lecture he describes some of the advances in physiology, pathology and internal medicine that were made during the eighteenth century.

GORDON BENJAMIN LEE

Medicine throughout antiquity Foreword by Max Neuburger 157 illustrations. Philadelphia F A. Davis Company, 1949 818 p. illus. 24 cm. $6.00 958

Contents: Part I, Prehistoric and protohistoric medicine: Introduction. The antiquity of medicine. Paleolithic evidence of the antiquity of medicine. Prehistoric medicine. Primitive concepts of disease and death. Nature worship and medicine. Medicine in Assyro-Babylonia. Medicine of ancient Egypt. Ancient Hebrew medicine. Medicine in ancient Persia. Antiquity of Indian medicine. Medical concepts in China. Medicine in ancient Japan. Medicine among the prehistoric Americans. Part II, The Greco-Roman period: Dawn of Greek medicine. Influence of philosophy on medicine. Medical philosophers and practitioners. Hippocrates, the great teacher. Hippocratism, the classics. The drift towards dogmatism. The Athenians. The Peripatetics, Epicureans, and Stoics. Alexandrian school. Empiricism. Roman medicine. The methodist school. The encyclopedists. The pneumatics and eclectics. Galen. Talmudic medicine. Talmudic diagnosis and treatment. Index.

Note: A comprehensive yet readable account of the art of medicine from the beginning of man's existence to 476 A.D. The book, which is written for both laymen and practitioners, discusses the medical beliefs and knowledge held by the men of this early period, and describes the diseases from which they suffered and the therapeutic measures employed. Numerous extracts from the ancient records upon which the book is based are woven into the general narrative. Chapter bibliographies are provided.

LEAKE, CHAUNCEY D

The old Egyptian medical papyri. Lawrence, Kansas University of Kansas Press, 1952 108 p. 21 cm. (University of Kansas. Logan Clendening lectures on the history and philosophy of medicine. Second series) $2 00. 959

Contents: The chief Egyptian medical papyri. Old Egyptian weights and measures. Drug measurement in the old Egyptian medical papyri. Ancient Egyptian therapeutics. The Hearst medical papyrus. Organization of the Hearst medical papyrus. Diseases in the Hearst medical papyrus. The ingredients of the Hearst papyrus prescriptions. Summary. Appendix—List of prescriptions in the Hearst medical papyrus. References. Index.

Note: In this work the main features of ancient Egyptian medical practice as revealed by the study of eight papyri dating from 1900 B.C. to 1200 B.C. are summarized. The greater part of the book deals with the diseases and methods of treatment described in the Hearst papyrus (1550 B.C.) which was acquired by the University of California in 1901.

SIGERIST HENRY ERNEST

A history of medicine. Volume I Primitive and archaic medicine. New York Oxford University Press, 1951 564 p. illus 24 cm. (Yale Medical Library, Historical Library Publication no. 27) $12 50 960

Contents: Introduction. Primitive medicine. Ancient Egypt. Mesopotamia. Appendices: Histories of medicine. Source books of medical history. Museums of medical history. Literature of paleopathology since 1930. Index.

Note: The first volume published of an eight-volume work planned on a more comprehensive scale than has been attempted before. It is the author's purpose to apply to the history of medicine the same principles as are applied in scholarly histories of other aspects of human life. A reading of the part of his introduction entitled "The historical approach to medicine" is essential to an understanding of his plan, but the subheadings in his chapter on Mesopotamia, "The setting," "Social environment," "Principles and sources of Mesopotamian medicine," "Priests and physicians," "Content of Mesopotamian medicine," "Rational elements in Mesopotamian medicine," indicate the scope of his method, and the inclusion of much material on the social and economic setting. His style is both scholarly and readable. Sources are scrupulously noted.

WOGLOM WILLIAM HENRY

Discoverers for medicine. New Haven Yale University Press, 1949 229 p illus. 24 cm. $3 75 961

Contents: Introduction. The blood pressure—*Stephen Hales*. Respiration—*Antoine Laurent Lavoisier*. The foxglove—*William Withering*. Vaccination—*Edward Jenner*. The laryngeal mirror—*Manuel Garcia*. The Eustachian tube—*Edmé Gilles Guyot*. Eyeglasses and spectacles—*Benjamin Franklin*. The itch—*Simon François Renucci*. Quinine. Phagocytosis—*Elie Metchnikoff*. X-rays—*Wilhelm Conrad Roentgen*. Heredity—*Gregor Johann Mendel*. [illegible]—*John Rowe*. Bibliography. Index.

Note: An informal history of selected advances in medical knowledge and practice that were based on discoveries or inventions of persons not members of the medical profession. Mainly it is organized in the form of biographical sketches of selected individuals. However each sketch contains, in addition to personal biographical data, historical and background information that often includes accounts of the contributions of other persons. Also the introduction mentions advances made in various fields of science by amateurs. The style is popular and the book is suitable for both lay readers and scientists.

GENERAL TEXTS AND TREATISES

ADVANCES IN INTERNAL MEDICINE. Volume IV Editors, William Dock and I. Snapper associate editors, Tinsley R. Harrison, Chester S. Keefer Warfield T Longcope, J Murray Steele. Chicago The Year Book Publishers, Inc. 1950 549 p. illus. 23 cm. $10 00. 962

Contents: Nitrogen mustards in the treatment of neoplastic disease, by D. A. Karnofsky. Use of radioactive isotopes in medicine, by L. R. Wasserman and R. Loevinger. Bronchiectasis, by A. L. [illegible] and W. W. [illegible]. Advances in the neuromuscular disorders, by D.

McEachern and R. Rabinovitch. Use of sodium depletion in therapy, by W Dock. Clinical use of anticoagulants, by J. E. Estes and E. V Allen. Hepatitis and cirrhosis of the liver, by A. J. Patek, Jr Hepatic tests, by H. Popper and F Schaffner The vascular physiology of hypertension, by G. W Pickering. Author index. Subject index. Cumulative index, Volumes I–IV

—— Volume v Editors, William Dock and I. Snapper Chicago The Year Book Publishers, Inc., 1952 464 p. illus. 23 cm. $10.50. 963

Contents: Diseases of the pregnant woman affecting the offspring, by M. H. Ross. Catheterization of the heart, by R. J Bing. Portal hypertension and its treatment, by A. H. Blakemore. The anemia of infection XVII. A review by G. E. Cartwright and M. M. Wintrobe. Gout, derangement of purine metabolism, by A. B. Gutman and T F Yü. Clinical aspects of ganglionic and adrenergic blocking agents, by R. H. Lyons and V L. Love. Aspects of the influenza problem, by J. Mulder. Experiences with adrenocorticotropic hormone (ACTH) and cortisone, by C. Ragan. Abnormal proteins in myeloma, by J Waldenström.

Note: (850*) Further volumes in series in which recent developments are summarized and references are given to the original articles. The papers are not mere abstracts but are long enough to convey the significance and most of the results described in the original publications. The series is addressed to general practitioners, internists, and specialists who wish to keep up with developments in this branch of medicine.

CECIL, RUSSELL LA FAYETTE editor

The specialties in general practice. Philadelphia W B Saunders Company, 1951 818 p. illus. 26 cm. $15 00. 964

Contents. Minor surgery by W A. Barnes. Orthopedic surgery by L. R. Straub. Fractures and dislocations, by C. H. Herndon. Urology by H. J Jewett. Diseases of the anus, rectum and colon, by C. G. Child. Gynecology by L. M. Hellman. Obstetrics, by L. M. Hellman. Pediatrics, by R. C. Eley Ophthalmology by R. T Paton. Diseases of the nose and throat, by A. W Proetz. Diseases of the larynx, bronchi and esophagus, by C. L. Jackson. Otology by E. P Fowler. Dermatology and syphilology, by G. M. Lewis. Psychiatry by D. D. Bond and J M. Flumerfelt. Index.

Note The several chapters of this work have been written by eminent specialists, but the book is designed, as the title indicates, for the general practitioner The emphasis is on knowledge that can be put to practical use in the regular work of general practitioners. Much of the information is—as might be expected—familiar; but some of the techniques, for instance number of those treated in the chapter on orthopedic surgery are outside the usual knowledge of the general practitioner Each chapter is supplemented by literature references. There are 470 figures and an exceptionally full index.

CECIL RUSSELL LA FAYETTE, AND ROBERT F LOEB editors

A textbook of medicine. Edited by Russell L. Cecil, Robert F Loeb associate editors, Alexander B Gutman Walsh McDermott, and Harold G Wolff Eighth edition, illustrated. Philadelphia W B Saunders Company 1951 1627 p illus (part col d) 26 cm. $13 00 965

Contents (abridged) The infectious diseases Viral diseases. Rickettsial diseases. Bacterial diseases—pneumococcal infections—streptococcal diseases—staphylococcal infections—gonococcal infections—meningococcal infections—bacillary diseases. The mycoses. Spirochetal infections. Protozoan infections. Metazoan infections—the Platyhelminthes—the Nematoda—Hirudinea—arthropods and human diseases. Diseases of unproved etiology Diseases of allergy Diseases of collagen. Diseases due to physical agents. Diseases due to chemical agents. Deficiency diseases. Diseases of metabolism. Diseases of the digestive system Diseases of the mouth, salivary glands and pharynx. Diseases of the esophagus. Diseases of the stomach. Diseases of the intestines Diseases of the liver Diseases of the gallbladder and bile ducts. Diseases of the pancreas. Diseases of the peritoneum. Diseases of the respiratory system Diseases of the nose. Diseases of the larynx. Diseases of the bronchi Diseases of the lungs. Diseases of the mediastinum. Diseases of the diaphragm. Diseases of the kidneys. Diseases of the spleen and reticulo-endothelial system. Diseases of the blood. Diseases of the cardiovascular system: Diseases of the heart. Diseases of the peripheral vessels. Diseases of the ductless glands. Diseases of the thyroid gland. Diseases of the pituitary gland. Diseases of the adrenal glands. Diseases of the thymus gland. Diseases of the parathyroid glands. Diseases of the sex glands. Diseases of the locomotor system: Diseases of the muscles. Diseases of the joints. Diseases of the bones. Diseases of the nervous system: Important symptoms and signs. Diseases of the motor tracts. Hereditary familial and congenital diseases. Diseases of various etiology Diffuse and focal diseases of the spinal cord. Diffuse and focal diseases of the brain. Diseases of nerve roots, plexuses and nerves. Diseases of other roots and nerves. Vasomotor and trophic disorders. Psychosomatic medicine. The psychoneuroses. The psychoses. Appendix and index.

Note: (834) A leading American textbook on internal medicine. It is encyclopedic in coverage and is used both as a text in medical schools and as reference book by medical graduates. Most of the space is devoted to descriptions of individual diseases; and each disease is discussed as to definition, epidemiology etiology, bacteriology diagnosis, treatment, prognosis, and prophylaxis. The chapters are all signed with the names of eminent medical teachers and practitioners. The seventh edition was published in 1947 In preparing this edition 20 articles are added on diseases and aspects of diseases not previously covered. In addition, 65 articles were deleted and their places taken by new essays. Recent literature was added to the bibliographies.

CONN HOWARD FRANKLIN, editor

Current therapy 1952 latest approved methods of treatment for the practicing physician. Consulting editors M Edward Davis, Vincent J Derbes Garfield G. Duncan, Hugh J Jewett William J Kerr Perrin H. Long, H. Houston Merritt, Paul A. O'Leary Walter L Palmer Hobart A. Reimann Cyrus C. Sturgis, and Robert H. Williams. Philadelphia W B Saunders Company, 1952 849 p. illus. 27 cm. $11 00. 966

Contents (abridged) Section one, The infectious diseases. Section two, Diseases of the respiratory system. Section three, Diseases of the cardiovascular system. Section four Diseases of the blood and spleen. Section five, Diseases of the digestive system. Section six, Disorders of metabolism and nutrition. Section seven, Diseases of the endocrine system. Section eight, Diseases of the urogenital tract. Section nine, The venereal diseases. Section ten, The allergic diseases. Section eleven, Diseases of the skin. Section twelve, Diseases of the nervous system. Section thirteen, Diseases of the locomotor system. Section fourteen, Obstetric and gynecologic conditions. Section fifteen, Diseases due to physical and chemical agents. Section sixteen, Appendices and Index.

Note: An annual publication, in each volume of which eminent practitioners of medicine and other recognized authorities describe currently used methods of therapy in wide range of diseases. Some of the articles describe only one method of treatment; others describe several. Surgical techniques are not covered, but indications for surgical treatment are given and pre- and post-operative care are described. The book is valuable not only for its clear descriptions of reliable methods but also for its comparisons among therapeutic agents, for example para-aminobenzoic acid was found to be of some benefit, but with the advent of aureomycin and chloramphenicol (chloromycetin) in 1948 and terramycin in 1950, specific treatment for spotted fever was clearly demonstrated.

CORNELL CONFERENCES ON THERAPY [reports] Volume four Edited by Harry Gold, David P Barr Frank Glenn, McKeen Cattell, Walter Modell and George Reader New York The Macmillan Company 1951 342 p. 21 cm. $3.50. 967

Contents. Household poisonings. Treatment of diabetic emergencies. Therapeutic uses of gamma globulin. Treatment of cardiovascular syphilis Treatment of neurosyphilis. Management of dysmenorrhea. Management of myxedema. Treatment of cardiovascular manifestations of thyroid disorders. Management of disorders of cardiac rhythm. Medical management of hypertension. Treatment of painful disorders of skeletal muscle. Use of new antimicrobial agents in genito-urinary infections. Management of the menopause. Treatment of morphine addiction. List of conferences for volumes 1, 2, and 3.

—— Volume five. Edited by Harry Gold, David P Barr McKeen Cattell Frank C. Ferguson, Jr., Frank Glenn and George Reader New York The Macmillan Company 1952 295 p. 21 cm. $4.00 968

Contents: Treatment of cough. The management of fever. General indications for vitamin therapy Treatment of obesity *Low cholesterol* diet in the treatment of atherosclerosis. Use of sedatives and narcotics. Addiction as complication of the therapeutic use of drugs. Treatment of some chronic muscular diseases. Relief of pain by ethyl chloride spray *Use of curare and curare-like agents.* Problems in treatment of the atomic casualty Treatment of acute arterial occlusion. Treatment of carbon monoxide poisoning. Treatment of pneumonia. Treatment of bacterial meningitis. List of conferences for volumes 1, 2, 3, and 4.

Note ('46–'51) The volumes in this series contain edited stenographic reports of discussions held under the auspices of the Departments of Medicine and Pharmacology of Cornell University Medical College-New York Hospital. Participants in the conference include staff members of the college and hospital, pharmacists, visiting practitioners, and specialists. As might be expected, the style of presentation is informal. However the information presented is authoritative and of much current interest, especially to general practitioners.

HYMAN HAROLD THOMAS

An integrated practice of medicine. Progress volume Modern developments in therapeutics and methods of treatment Philadelphia W B Saunders Company, 1950. 4133–4867 p. 24 cm. $10.00. 969

Note. ('50) A supplement to the author's cyclopedia *Integrated practice of medicine.* Its purpose is to cover developments between the writing of that work (which was published in 1946) and some unspecified date in 1950. Topics are arranged alphabetically from actinomycosis to yellow fever and references are given to the pages of the original work, to which the new material is related. The volume contains both the general indexes to the main work and an index to the *Progress* volume itself.

MAYO CLINIC ROCHESTER, MINNESOTA

Collected papers of the Mayo Clinic and the Mayo Foundation. Volume 43 1951 published June, 1952 Philadelphia. W B Saunders Company 1952 833 p. illus. 24 cm. $12.00 970

Contents (abridged). Alimentary tract. Genito-urinary diseases. Ductless glands. Blood and circulatory organs. Skin and syphilis. Head, trunk and extremities. Chest. Brain, spinal cord and nerves. Radiology *Physical medicine and rehabilitation. Anesthesia,* gas and intravenous therapy Miscellaneous. Index of contributors. Index of subjects.

Note ('40–'52) The 43rd in series of annual volumes designed to make generally available reports on advances in medicine which have taken place at the *Mayo Clinic* and *Mayo Foundation.* Many papers are given in full, some in shortened form or in abstract, and still others only by title, but in every case reference is given to the original reading or publication of the paper. Of interest to workers in all branches of medical science.

MEAKINS, JONATHAN CAMPBELL

The practice of medicine. Fifth edition with 518 illustrations including 50 in color St. Louis The C V Mosby Company 1950. 1558 p. illus. (part col'd) 26 cm. $13.50 971

Contents. An introduction to the practice of medicine. Diseases of the nasopharynx and mouth. Specific infections of the nasopharynx and mouth. Diseases of the larynx and bronchial system. Diseases of the lungs. Diseases of the circulatory system. Diseases of the serous membranes, mediastinum and diaphragm. Diseases of the hematopoietic system. Diseases of the gastrointestinal tract. Diseases of the liver and bile passages. Diseases of nutrition. Diseases of metabolism. Diseases of the ductless glands. Diseases of the nervous system. Psychosomatic medicine. Diseases of the locomotor system. Diseases of the urinary system. Infectious diseases. Chemotherapy and antibiotics. Diseases due to allergy Diseases due to abnormal environments. Diseases due to chemicals and drugs. Index.

Note: A standard medical college textbook in which the whole field of clinical medicine is covered from the standpoint of the general practitioner. *Diagnosis and treatment are emphasized.* All but small portion of the space is devoted to descriptions of diseases. In these descriptions, diagnosis, prognosis, and treatment are emphasized; and there is relatively little material on etiology and pathology. The fourth edition was published in 1944. The major changes in this edition consist of new chapter on psychosomatic medicine in place of the former chapter on psychiatry and new chapter on chemotherapy and the antibiotics. Revisions have been made in many of the other chapters and selection of the literature published since 1944 has been added to the lists of references.

MONOGRAPHS IN MEDICINE. Series I. Editor William B Bean. Associate editors, Morton Hamburger John A. Leutscher Jr., and Stewart Wolf Baltimore The Williams & Wilkins Company, 1952 655 p. illus. 24 cm. $12.00 972

Contents: Talking with the patient, by S. Wolf. Precordial noises heard at distance from the chest, by W. B. Bean. Physiology of the body fluids, by W W Wallace. Angiocardiography, by C. T. Dotter and I Steinberg. Portal hypertension, by M. A. Payne and C. G. Child, 3d. Pheochromocytoma, by H. Anner Jr. Respiratory failure in neuromuscular disorders, by F. Plum. Cortisone and ACTH in infectious processes, by M. Michael, Jr. Prevention of rheumatic fever by C. H. Rammelkamp, Jr., and F W Denny Amebiasis, by H. E. Hamilton. The present status of the chemotherapy of human malaria, by L. H. Schmidt. The mosquito, arthropod borne, virus encephalitides, by R. W Schlesinger. Sickle cell anemia, by R. S. Lowell and W A. MacDonald. The growth and maturation of the erythrocyte, by R. W Vilter and J. F Mueller. *Chemical agents used in the treatment of inoperable and far advanced neoplastic disease,* by D. A. Karnofsky. Index.

Note The first volume in new series which has as its purpose the publication of short monographs on medical topics and topics allied to medicine. The monographs are addressed to medical practitioners rather than to students; and, as the titles indicate, they are not confined to any one branch of medicine. Although based on the literature and accompanied by substantial bibliographies, they are more than mere literature digests. The average length is 40 pages.

MUSSER, JOHN HERR, AND MICHAEL G WOHL, editors

Internal medicine its theory and practice. *Originally edited by John H. Musser* Fifth edition edited by Michael G Wohl. With 80 contributors, 236 illustrations and 10 colored plates. Philadelphia Lea & Febiger, 1951 1563 p. illus. 27 cm. $15.00. 973

Contents. Part I, Infectious diseases: Some aspects of infection and resistance, by P R. Cannon. The viral diseases, by C. Wenckebach. The rickettsial diseases, by H. Plotz. Diseases due to spirochetes, by J A. Kolmer. The bacillary diseases, by L Felsen. The coccal diseases, by R. A. Kinsella. The contagious diseases of childhood, by F F Lenhard and A. C. La Boccetta. The protozoan diseases, by C F Craig. The metazoan diseases, by E. C. Faust. Fungous infections or mycoses, by H. F Conant. Principles of antimicrobial therapy by H. F Flippin. Diseases of doubtful etiology, by F F Rosenthal and others. Part II, Diseases due to physical and chemical agents: Diseases due to physical and toxic agents, by D. P Barr. Diseases due to chemical agents, by M. C. Fiorello and R. S. Fisher. Part III, Diseases of nutrition ... glands General considerations, by P Gyorgy Diseases of nutrition, by M. G. Wohl and others. Diseases of metabolism, by J. H. Talbott and others. Diseases of the endocrine glands, by M. G. Wohl and others. Part IV Diseases of allergy and collagen diseases: Diseases of allergy by R. A. Cooke and others. Collagen diseases, by M. G. Wohl and others. Part Systemic diseases: Genetics and medical practice, by L. H. Snyder. Psychosomatic aspects of medical practice, by E. Weiss. Diseases of the heart, by S. Bellet and others. Diseases of the respiratory tract, by I. W Pinkerton and others. Diseases of the kidneys, by L. Leiter. Diseases of blood vessels and lymph vessels and abnormalities of blood pressure, by I. S. Wright and C. D. Murphy. Diseases of the blood, by C. C. Sturgis. Diseases of the spleen and the reticulo-endothelial system, by E B. Krumbhaar and R. P Custer. Diseases of the alimentary tract, by C. M. Jones. Diseases of the locomotor system, by S. R. Mettier Part Care of the aged and rehabilitation: The care of

the aged, by E. A. Kern. Medical practice and rehabilitation, by H. A. Rusk. Part VI, Diseases of the nervous system. Diseases and abnormalities of the mind including the neuroses, by E. A. Strecker and M. M. Pearson. Organic diseases of the nervous system, by G. Wilson and others. Index.

Note. (843) A standard textbook and reference manual which is outstanding for its comprehensiveness. Most of the authors of the various chapters are professors on the faculties of leading medical schools in the United States of America. The fourth edition, the last one edited by the late Professor John H. Musser was published in 1945. Although the length of the book has been increased by only about 30 pages in this edition, the work has been extensively revised and several chapters have been added. The subject index is very detailed.

REHFUSS MARTIN EMIL, AND ALISON HOWE PRICE

A course in practical therapeutics. Second edition. Baltimore The Williams & Wilkins Company 1951 938 p illus. (part col d) 29 cm. $15 00 974

Contents (abridged) Section I, General therapeutic principles: Diagnostic survey Adjustment of the patient. Prescription writing. Dietary principles. Nursing problems of interest to the physician. Contents of the physician's bag. Section II, Symptomatic therapy Section III, Treatment of specific disorders: Vitamin deficiency states and nutritional disorders. Digestive tract disorders. Diseases of blood and blood-forming organs. Diseases of the heart. Diseases of the kidneys. Venereal diseases. Respiratory diseases. Arthritis. Allergic disorders. Physical agents and poisons. Chemotherapy Infectious diseases. Systemic mycoses. Endocrine disorders. Section IV Special treatment Ocular therapeutics. Nasal therapeutics. Otological therapeutics. Dermatological therapeutics. Psychotherapy Industrial therapeutics. Oxygen therapy Radioactive isotopes Physical medicine. Pediatric therapeutics. Prophylactic medicine. Atomic warfare. Index.

Note (845*) A comprehensive, well-organized work which was originally developed from material used in instructing medical students in the two-year course in practical therapeutics in Jefferson Medical College in Philadelphia. In addition to its use as text, it is used as an office reference book by general practitioners of medicine. Only portion of the contents is indicated above. In the second section, for instance, 35 kinds of disorders are discussed. Under infectious diseases all of the diseases likely to be encountered in general practice are covered In the present edition many new drugs that have won recognition since the first edition was written are included The illustrations again include many large-scale reproductions of drawings which show reference points in diagnosis and therapeutic techniques.

YATER WALLACE MASON

Fundamentals of internal medicine. Third edition. New York Appleton-Century-Crofts, Inc., 1949 1451 p. 25 cm. $12 00 975

Contents. Diseases of the heart. Diseases of the blood vessels. Diseases of the kidneys. Diseases of the blood and blood-forming organs. Diseases of the respiratory system. Diseases of the digestive system, by W M. Yater Diseases of the locomotor system. Diseases of the endocrine glands, by E. J. Kepler and F R. Keating, Jr Diseases of the spleen and reticulo-endothelial system. Diseases of metabolism. Diseases of allergy by W M. Yater and G. T Brown. Diseases due to intoxications, by S. M. Rosenthal and W M. Yater Diseases due to physical agents, by S. M. Rosenthal and J. C. Adams. Diseases due to vitamin deficiency and malnutrition, by W H. Sebrell and W M. Yater The infectious diseases. Diseases of the nervous system, by A Schneider and J M. Williams. Mental diseases, by A. Schneider and L Roche Diseases of the skin, by W O. Teichmann Diseases of the ear by F C. Schreiber. Diseases of the eye, by E. J. Cummings. Dietetics. Chemotherapy and therapy with antibiotics, by H. L. Hirsh Symptomatic and supportive treatment, by H. H. Hussey Inhalational therapy by P F Jaquet. Clinical values and useful tables. The physician himself. Index.

Note. (2047) A standard introduction to this field, used chiefly as text for medical college students, but valuable also as reference book to general practitioners of medicine and specialists in fields other than internal medicine. As indicated in the table of contents, many of the chapters were contributed by specialists other than the author. (When no author's name appears in the above table of contents, the chapter was written by Dr Yater himself) The second edition was published in 1944. Much new material was added in preparing this edition and some of the material carried over has been revised. There are now 315 figures as compared to 275 and 1451 pages as compared to 1204. When used as reference book those sections which deal with areas of medicine in which advances are rapid—for instance, chemotherapy—must be supplemented by annual review volumes and periodical literature.

YEAR BOOK OF MEDICINE

The 1952 year book *of* medicine (May, 1951–May, 1952) Edited by Paul B Beeson, J Burns Amberson, William B Castle, Tinsley R. Harrison, George B Eusterman, Robert H. Williams. Chicago The Year Book Publishers, Inc., 1952 735 p. illus. 20 cm. $6 00 976

Contents: Part I, Infections, by P B. Beeson. Part II, The chest, by J. B. Amberson. Part III, The blood and blood-forming organs, by W B Castle. Part IV The heart and blood vessels and the kidney by T R. Harrison. Part The digestive system, by G. B. Eusterman. Part VI, Metabolism, by R. H. Williams. Index. Index to authors.

Note: (846) As in the other volumes in this useful series, the chapters in this one are made up of fairly long abstracts of articles selected from the world's medical periodicals and published during the period indicated in the title. A reference to the original publication is always given. In many instances there is short note by the editor in which the findings of the original author are evaluated or are related to other knowledge or publications in the same area.

CLINICAL MEDICINE

BRAY WILLIAM EDWARD

Clinical laboratory methods. Fourth edition. With 119 text illustrations and 18 color plates. St. Louis The C. V Mosby Company 1951 614 p. illus. (part col d) 22 cm. $7.25 977

Contents: General rules—laboratory examinations of value in various cases. Urinalysis. Hematology Blood chemistry Gastric analysis. Feces and intestinal parasites. Puncture fluid examinations—cerebrospinal fluid examination. Sputum. Bacteriology Mycology. Water and milk examinations. Serology Basal metabolism tests. Allergy tests. Poisons and foreign substances. Surgical pathology Indicators, stains and staining solutions, reagents, renewal of laboratory stains, atomic weights, table of equivalents, table of [illegible]. Index.

Note: (2031a) A long-established reference book addressed to medical college students and clinical laboratory technicians. In it accepted procedures are described step by step and in detail with special reference to such matters as collecting of specimens, clinical and microscopical examinations, staining techniques and special points such as precautions, useful variations in procedures, etc. Literature references are included for many of the methods. The third edition entitled *Synopsis of clinical laboratory methods* was published in 1944. Although much of the content of the fourth edition is identical with that of the third, considerable range of material has been added nevertheless. Also, some outdated material has been deleted.

CANTAROW, ABRAHAM, AND MAX TRUMPER

Clinical biochemistry Fourth edition. Philadelphia W B Saunders Company, 1949 642 p. illus. 24 cm. $8.00 978

Contents: Carbohydrate metabolism. Protein metabolism. Lipid metabolism Calcium metabolism. Inorganic phosphorus metabolism. Phosphatase activity Magnesium metabolism. Metabolism of iron. Sulfur metabolism. Iodine metabolism. Sodium, potassium and chloride metabolism. Water balance. Acid-base balance. Respiratory exchange and basal metabolism. Vitamins. Diabetes mellitus. Renal function. Nephrosis. Hepatic function. Chemical investigation of gastric function. Pancreatic function. Cerebrospinal fluid. Biochemical changes in pregnancy and lactation. Hormone assay and endocrine function, by A. E. Rakoff. Outline of chemical abnormalities in various disorders. Index.

Note (849*) A standard survey of the biochemical knowledge which has significance in clinical medicine. It is designed both for use as medical college textbook and as reference guide to the literature of the field. Correlations between biochemical knowledge and clinical implications are made as direct as possible, but the treatment is from the viewpoint of the medical clinician rather than the biochemist. The third edition appeared in 1943. Important

revisions and additions were made in preparing this edition. Sections on renal and respiratory regulation of acid-base balance, thyroid function, adrenal function, chemical changes in shock are some of those affected. On the other hand, considerable number of the chapters have not been revised at all.

CONSOLAZIO C FRANK AND OTHERS

Metabolic methods clinical procedures in the study of metabolic functions, by C. Frank Consolazio, Robert E. Johnson and Evelyn Marek. With 65 figures 32 tables and 2 charts. St. Louis The C. V Mosby Company 1951 471 p. illus. 26 cm. $6.75 979

Contents (abridged) Section I, Introduction. Section II, The collection and storage of specimens. Section III, Instrumentation. Section IV, Biochemical procedures. Section Microbiological procedures. Section VI, Physiological measurements. Section VII, Studies in the field. Section VIII, Techniques for metabolic wards. Section IX, Clinical laboratory procedures. Section X, Statistical methods. Section XI, Miscellaneous data. Index.

Note Only procedures which the authors have themselves used are described in this book. Although wide range of procedures is presented, the collection is nevertheless selective ones chosen for simplicity and reliability Isotopic ultracentrifuge and electrophoretic techniques are not covered. The greater part of the space is given to sections four through seven. In these parts the descriptions of individual techniques are organized under the following subheadings: (1) literature references, (2) principles, (3) apparatus, (4) reagents, (5) concise description of procedure, (6) general equation for calculating the results, (7) precautions. In addition to one or more literature references for each method, there are general references for each section.

GOODALE RAYMOND HAMILTON

Clinical interpretation of laboratory tests. Second edition. 107 illustrations—3 in color Philadelphia F A. Davis Company 1952 605 p. illus. (part col d) 24 cm. $6.50. 980

Contents (abridged) Part 1 Body fluids, secreta, and functional tests: Hematology Blood chemistry Serology Urine. Gastric and duodenal contents. Cerebrospinal fluid. Sputum. Feces. Transudates and exudates. Spermatozoa. Basal metabolic rate. Tests for liver and biliary function. Bacteriological examinations. Rickettsiae and viruses. Mycological examinations. Skin tests. Toxicologic examinations. Part 2 Diseases with associated laboratory findings: The blood and hematopoietic organs. The respiratory system. Gastrointestinal tract and pancreas. Liver and biliary tract. The genitourinary system. Endocrine glands Central nervous system. Bacteriological diseases. Vitamin deficiency Metabolic disorders. Index.

Note A reference manual of specific information about diseases in the diagnosis of which laboratory tests are useful and about the procedures and interpretations of the results of diagnostic laboratory tests. Somewhat more space is given to background information than to actual technical procedures. Literature references are included. The book is useful to general practitioners of medicine, clinicians, and hospital laboratory technicians. The first edition was published in 1949

HEPLER, OPAL E

Manual of clinical laboratory methods. Fourth edition, revised third printing. With a foreword by James P Simonds Springfield, Illinois Charles C Thomas 1951 387 p. illus 28 cm. $9 50 981

Contents: Urinalysis. Hematology Gastric and duodenal contents. Liver function tests Feces Sputum. Cerebrospinal fluid. Body fluids. Pregnancy tests. Bacteriology Mycology Serology Blood groups. Clinical chemistry Allergy extracts. Tissue sectioning. Basal metabolism. Electrocardiography Solutions used in routine tests. Index.

Note A standard reference book of methods useful in hospital and other laboratories where clinical tests are made. Although in most instances only one method for particular determination is described, wide range of tests is covered. Procedures are detailed specifically usually in numbered steps. However the interpretation of results is not covered. More than 30 tables of reference data are included. The book was developed originally for use by medical students in the Medical School of Northwestern University but it is suitable also for the guidance of laboratory technicians who are not medical graduates. The first three editions were not published commercially

KOLMER, JOHN ALBERT

Clinical diagnosis by laboratory examinations. Second edition. New York Appleton Century Crofts, Inc. 1949 1212 p. illus. 25 cm. $12 00 982

Contents (abridged) Part one, The clinical interpretation of laboratory examinations: Blood examinations. Urine examinations. Blood chemistry examinations. Glucose tolerance tests. Kidney function tests. The basal metabolic rate and the iodine tolerance test. Toxicologic examinations. Liver function tests and examinations of the bile. Examination of the saliva and sputum. Examinations of the stomach, duodenal contents and pancreas function tests. Parasitologic examinations. Cerebrospinal fluid examinations. Bacteriologic examinations. Mycologic examinations. Serologic examinations. Immunologic and allergic skin tests. Examinations for hormones and vitamins. Part two, The practical applications of laboratory examinations in clinical diagnosis Diseases of the blood and hemopoietic system. Diseases of the kidneys and urinary system. The venereal diseases. Diseases of the stomach, intestines and pancreas. Diseases of the liver and biliary tract. Diseases of the cardiovascular system. Diseases of the respiratory tract. Diseases of metabolism. Diseases of vitamin deficiency Diseases of the endocrine glands. Part three, Technic of laboratory examinations: Blood examinations. Urine examinations. Blood chemistry examinations. Functional examinations. Examinations of gastric contents. Feces examinations. Spinal fluid examinations. Bacteriologic examinations. Serologic examinations. Index.

Note: (2059) A comprehensive work on the use of laboratory tests and findings in the diagnosis of disease. The first part—in which diseases are covered by classes and individually—is 616 pages long in this edition. The second part also is addressed to the clinician rather than the laboratory technician and it occupies an additional 330 pages. The third part on the techniques of the laboratory is useful but relatively minor section. The book is very useful as complementary work to standard texts on internal medicine, because of its particular emphasis on laboratory diagnosis. The first edition was published in 1944. Fairly extensive revisions were made in preparing this edition.

KOLMER, JOHN ALBERT AND OTHERS

Approved laboratory technic. By John A. Kolmer Earle H. Spaulding and Howard W Robinson. Fifth edition with 403 illustrations and 28 color plates. New York Appleton-Century-Crofts, Inc., 1951 1180 p illus. (part col d) 25 cm. $12.00 983

Contents (abridged) Part One, General laboratory methods: The microscope and methods of microscopy Diseases of animals and methods for the care, inoculation and bleeding of animals. Part Two, Clinical pathologic methods: Methods for the examination of the blood, by C. J. D. Zarafonetis. Methods for conducting kidney function tests. Methods for the examination of stomach contents. Methods for conducting liver function tests. Methods for conducting pancreas function tests. Methods for the examination of cerebrospinal fluid. Methods for the examination of the blood and urine for hormones. Part Three, Bacteriologic, mycologic and virologic methods: Methods for the collection and handling of specimens. Methods for the preparation of culture media. Diagnostic bacteriologic methods. Methods for the preparation of bacterial vaccines. Methods for testing disinfectants. Diagnostic mycologic methods. Part Four, Parasitologic methods. Part Five, Serologic methods: Methods for the preparation and preservation of plasma and serum. Methods of conducting hemagglutination and blood grouping tests, by L. Davidsohn. Methods for conducting immunologic and allergic skin tests. Part Six, Chemical methods Colorimetric methods. Methods for the preparation of standard volumetric solutions. Determination of basal metabolic rate. Methods for chemical examinations of milk and diabetic foods. Methods for toxicologic examinations Part Seven, Pathologic methods Appendix. Index

Note: (2064) A comprehensive manual of medical laboratory methods of proved value. It contains wide range of information on equipment, care of laboratory animals, laboratory methods of various kinds, and the prevention and emergency treatment of laboratory accidents. In its present edition the work has been very extensively revised. Many new methods have been added. The

authors are members of the faculty of Temple University School of Medicine.

LEVINSON, SAMUEL AZOR, AND ROBERT P MACFATE

Clinical laboratory diagnosis. Fourth edition, thoroughly revised, with 221 illustrations and 13 plates 10 in color Philadelphia Lea & Febiger 1951 1146 p. illus. (part col'd) 24 cm. $12.00 984

Contents: The mouth. The stomach. The duodenum and related organs. The intestine. Metabolism. Chemical analysis of the blood. The kidneys. Chemical analysis of the urine. Hematology Immunology and serology Cerebrospinal fluid. Transudates and exudates. General bacteriology The sputum. Skin tests and other biologic examinations. Laboratory methods in pediatric procedures. Tropical diseases. Milk and water analysis. Histologic technic. Legal medicine and toxicology Appendix. Index.

Note: (853) A standard work, outstanding for its comprehensiveness and its detailed descriptions of laboratory procedures. It is based on the methods currently used in the laboratories of the University of Illinois Research and Educational Hospitals. This fourth edition is considerably larger than the previous ones, although the general plan has not been changed. The chapter on hematology and the section on toxicology have been entirely rewritten, and important revisions made in other parts of the book. There are also more illustrations and references to the recent literature have been added.

LOW BEER, BERTRAM V A.

The clinical use of radioactive isotopes. Springfield, Illinois Charles C Thomas 1950 414 p. illus. (part col d) 24 cm. $10.50 985

Contents. Part I, Physics: The physical nature of the atom. Mass, energy and charge relations of atoms. Radioactivity Detection and measurement of radioactivity Radioactivity units and standards. Safeguards against hazards in the use of radioisotopes. Bibliography of part I. References for part Part II, Clinical applications: Clinical investigations with radioactive isotopes. Dosage determinations with radioactive isotopes. Radioisotope therapy Bibliography of part II. References for part II. Appendixes. Index.

Note: This textbook is introductory in the sense that no previous acquaintance with the principles of radioactivity on the part of the reader has been assumed. On the other hand, the medical terminology employed makes it useful only to advanced students of medicine, medical practitioners, and other persons familiar with clinical terminology and techniques. The first part, which accounts for approximately one-third of the text, is devoted to the physics and other background aspects. The second part contains specific information on clinical applications. The book is based largely on literature survey and list of references included contains 317 citations. There are 58 figures, several of which are colored. The author is Associate Professor of Radiology in the Medical School of the University of California.

MERCK AND COMPANY INC

The Merck manual of diagnosis and therapy a source of ready reference for the physician. Eighth edition. Rahway N J Merck & Co. Inc. 1950 1592 p. 18 cm. $5.00 986

Contents: Part I. Allergy Blood and lymphatic. Cardiovascular. Deficiency and metabolic. Dental and oral. Ear, nose and throat. Endocrine. Eye. Gastrointestinal. Genitourinary Gynecologic and obstetric. Infectious and parasitic. Liver and biliary Musculoskeletal. Nervous system. Neuropsychiatric and psychosomatic. Physical and chemical. Respiratory Skin and connective tissue. Venereal. Part II. Routine immunization procedures. Clinical procedures. Bedside procedures. Preoperative and postoperative routines. Diets. Office laboratory procedures. The physician bag Alternative proprietary preparations. Ready reference guides. Part III. Index.

Note. A long-established manual of quick reference for general practitioners. Diagnosis and treatment are emphasized. Surgical procedures are not covered. Most of the concise monographs under specific diseases are organized under the following headings: etiology and pathogenesis, symptoms and signs, laboratory findings, treatment. Prescriptions for medicine are included. The present edition represents complete revising and major expansion of preceding editions.

NEW YORK ACADEMY OF MEDICINE. SECTION ON MICROBIOLOGY

Diagnosis of viral and rickettsial infections. Symposium held at the New York Academy of Medicine, January 29 and 30, 1948 Edited by Frank L. Horsfall, Jr New York Columbia University Press 1949 153 p. illus. 24 cm. $3 75 987

Contents: Introduction, by F L. Horsfall, Jr Laboratory diagnostic procedures for influenza, by G. K. Hirst. The diagnosis of mumps, by G. Henle and W Henle. The diagnosis of infections caused by the psittacosis-lymphogranuloma group of viruses, including trachoma and inclusion blennorrhea, by G. Rake. The diagnosis of primary atypical pneumonia, by F L. Horsfall, Jr. The diagnosis of neurotropic virus infections, including the viral encephalitides, lymphocytic choriomeningitis, and poliomyelitis, by J. Casals and P K. Olitsky The diagnosis of infection with the virus of herpes simplex, by T F M. Scott and others. The diagnosis of rabies, by H. N Johnson. The diagnosis of dengue, by R. W Schlesinger. The diagnosis of infectious mononucleosis, by J. R. Paul. The diagnosis of epidemic, murine, and scrub typhus, as well as Q fever, by J. E. Smadel. The diagnosis of Rocky Mountain spotted fever and rickettsialpox, by H. R. Cox. The diagnosis of infectious hepatitis, by W P Havens, Jr.

Note. A collection of original papers presented on the occasion mentioned in the book's title. Many of the authors have themselves made contributions to the knowledge of viral and rickettsial infections and some of the information included has not been previously published. The lectures were intended for practitioners of medicine and other graduate scientists with professional interests in the subject. Each paper is accompanied by list of literature references, but there are no indexes.

SUNDERMAN FREDERICK WILLIAM, AND FREDERICK BOERNER

Normal values in clinical medicine. Philadelphia W B Saunders Company 1950. 845 p. illus. (part col d) 26 cm. $15.00. 988

Contents (abridged) Section I, Circulatory system (normal values in cardiology) Electrocardiogram. Roentgen cardiac mensuration. Circulation time. Blood pressure. Section III, Chemical components and physical properties of blood (normal values in blood, extracellular fluids and lymph) Protein and nonprotein components of blood plasma. Blood sugar. Lipids. Hemoglobin, porphyrins and related compounds. Blood vitamins. Body fluids. The lymph. Enzymes and miscellaneous constituents of the blood. Section Digestive system (normal values in gastroenterology) The esophagus and stomach. The small intestine. The colon. The liver The gallbladder. The pancreas. Section VI, The nervous system (normal values in neurology) Encephalogram. The cerebrospinal fluid. Section Endocrines (normal values in endocrinology) Androgens and 17-ketosteroids. Estrogens. Progesterone. Gonadotrophic hormones. Section XVIII, Teeth and saliva (normal values in dentistry) Formation and eruption of teeth. Chemistry of teeth. Relative hardness of teeth. Section XIX, Miscellaneous data Statistical methods. Food values. Drugs and their doses. Isotopes. Life and actuarial tables. Appendix: Tables of weights, measures and standards Index.

Note A reference book of wide scope. There are 400 tables, some of which are several pages in length, and 137 figures. These compact presentations of data are supplemented by considerable verbal discussion. Some sections, for instance the chapter on normal body temperature, consist entirely of verbal discussion and literature references. Both the discussions and the tabulated data have been selected chiefly from published literature to which references are carefully given. In selecting the material the authors had the assistance and advice of an impressive group of collaborators.

DIAGNOSIS

BRUST, RAYMOND W

Physical diagnosis. Introduction by Truman G Schnabel. New York Appleton-Century-Crofts Inc., 1951 294 p. illus. 22 cm. $5 00 989

Contents (abridged) Part one, Orientation. Part two, The body in general. Part three, The pulmonary system. Part four The cardio-

vascular system. *Part five, The gastrointestinal system. Part six,* The nervous system. Index.

Note: A concise text on diagnostic techniques such as can be carried out in the physician's office without resort to laboratory tests. The discussions are direct and specific. The material is arranged logically and liberal use has been made of paragraphs and subtitles to facilitate rapid study and reference use. There are 60 illustrations. The author is member of the faculty of the Medical School of the University of Pennsylvania.

KAMPMEIER, RUDOLPH HERMAN

Physical examination in health and disease. With 550 illustrations 1 in color Philadelphia F A. Davis Company 1950 821 p. illus. (part col d) 24 cm. $8.00 990

Contents (abridged) The case history The body in action, by W F Orr. The general survey The head. The neck. The breast. The chest. The heart and blood vessels. The abdomen. The genitalia, perineum, anus, rectum. Musculoskeletal system and extremities. Index.

Note: A textbook for use in first courses in the subject in medical colleges. The separation of normal and abnormal conditions into separate chapters is feature that facilitates study Also, the textual discussions are shorter and more explicit than in some of the older, more voluminous texts. A majority of the illustrations are reproductions of photographs. The author is member of the faculty of the Vanderbilt University School of Medicine.

LEOPOLD SIMON STEIN

The principles and methods of physical diagnosis correlation of physical signs with physiologic and pathologic changes in disease. 390 illustrations with 19 color plates. Philadelphia W B Saunders Company 1952 430 p. illus. (part col d) 24 cm. $7.50 991

Contents: Routine data. Examination of the head. Examination of the neck. Examination of the musculoskeletal system. Examination of the breasts. Sounds from the thorax—acoustic principles (by R. R. Warren, Jr.) Examination of the chest. Palpation of the chest. Percussion of the chest. Auscultation of the chest. Physical signs in certain diseases of the lungs and pleura—correlative data. Examination of the circulatory system. Physical signs in certain diseases of the heart and great vessels—correlative data. Examination of the abdomen. The gynecologic examination. Examination of the male genitalia, and of the anus, rectum and rectosigmoid colon. Examination of the extremities. Neurologic examination. Psychiatric survey The history Index

Note: A medical college textbook in which the underlying principles and the basic routine of physical diagnosis are emphasized rather than clinical manifestations of disease. A concise, clearly written text is supplemented by high number of illustrations, many of which are reproductions of photographs. The author is Associate Professor of Clinical Medicine at the School of Medicine of the University of Pennsylvania.

MACBRYDE, CYRIL MITCHELL, editor

Signs and symptoms applied pathologic physiology and clinical interpretation Second edition. With 98 illustrations, 50 charts and 8 color plates. Philadelphia J B Lippincott Company 1952 783 p. illus. (part col d) 24 cm. $10.00 992

Contents: Introduction, by C M. MacBryde. Pain, by C. M. MacBryde. Headache, by H. G. Wolff. Sore tongue and sore mouth, by R. W Vilter. Thoracic pain, by J. R. Smith and R. Paine. Abdominal pain, by S. M. Jordan Backache and back pain, by R. H. Freyberg Joint pain, by R. H Freyberg. Pain in the extremities, by R. D. Williams Clubbed fingers and hypertrophic osteoarthropathy by E. S. Lipman and E. Massie. Palpitation and tachycardia, by E. Massie. Cough, by D. M. Skilling, Jr. Hemoptysis, by D. M. Skilling, Jr. Dyspnea, by D P Barr. Cyanosis, by D. P Barr Anorexia, nausea and vomiting, by J L. Horner. Constipation and diarrhea, by J L. Horner Hematemesis and melena, by L. Schiff. Jaundice, by S A. Portis. Nervousness and fatigue, by E. F Gildea. Fever, by P B Beeson. Disturbances of consciousness and of muscle movement, by W G. Lennox. Fainting, by R. A. Bleed, Jr Vertigo and deafness, by H. H Hyland. Dehydration, by C. M. MacBryde. Edema, by H. A. Schroeder. Obesity by C. M. MacBryde. Weight loss and undernutrition, by C. M. MacBryde. Pathologic bleeding, by B. Alexander. Pigmentation of the skin, by H. Jeghers and E. A. Edwards. Itching (pruritus) by S. Rothman and A. L. Shapiro. Index.

Note (338*) A textbook and practical guide to physical diagnosis in medicine. It is composed of series of original monographs hich deal separately with the interpretation of various classes or types of pain and other symptoms and signs. The discussions are systematic and concise. Each chapter is accompanied by selected bibliography of literature in hich fuller discussions of particular points are to be found. The first edition appeared in 1947 In this edition four new chapters have been added, and many of the chapters carried over have been extensively revised and extended.

TASSMAN, ISAAC SAMUEL

The eye manifestations of internal diseases (medical ophthalmology) Third edition. With 279 illustrations including 25 in color St. Louis The C. V Mosby Company 1951 672 p. illus. (part col d) 25 cm. $12.50 993

Contents: Normal structure of the eye and orbit. The general causes of eye manifestations. The examination of the patient. Structural abnormalities and manifestations. Congenital and hereditary eye manifestations. Infections and infectious diseases. Tuberculosis. Virus and related infections. Fungus infections. Ocular parasites and parasitic infections. Focal infections. Drug and chemical intoxications. *Diseases of the cardiovascular system.* Diseases of the blood. Disorders of menstruation and pregnancy Diseases of the endocrine glands and metabolism. Avitaminoses and diseases of nutrition. Diseases of the nervous system. Intracranial tumors. Diseases of the skin. Diseases of bones of the skull and orbit. Index.

Note. (341) The primary purpose of this treatise prepared for the ophthalmologist as well as for practitioners in other medical fields is to facilitate diagnosis of the very large number of conditions in hich the eye may be involved. Preliminary chapters on anatomy and diagnostic examinations of patients are followed by chapters containing specific and detailed descriptions of eye abnormalities and signs which may be seen in examination of the eye. The greater part of the work is concerned with eye conditions in systemic diseases. There are no notable changes in the overall plan of the third edition in comparison to the preceding edition. However, the length of the book has been substantially increased by the addition of new material on retrolental fibroplasia, Harada's disease, Behcet's syndrome, rubella, acute anterior poliomyelitis, Hutchinson's syndrome, and other diseases. The discussion of glaucoma has been completely rewritten. Additions have been made to the bibliographies and to the illustrations.

WALKER, HARRY

Physical diagnosis. With 126 illustrations. St. Louis The C. V Mosby Company 1952 461 p. illus. 26 cm. $8.00 994

Contents (abridged) Physical diagnosis. Diseases of the respiratory system, by E. S. Ray. Diseases of the circulatory system, by R. R. Porter. Index.

Note A textbook for use in medical colleges. The author emphasizes that physical examination is still the foundation for diagnosis. He states when the physical examination is well done, the next step in determining the diagnosis can be taken with more logic and the diagnosis can be arrived at in more direct manner. The more one knows about physical diagnosis, the better diagnostician he is certain to be. The first section of the book is divided into 16 chapters, most of which deal with the examination of characteristics such as build, or regions such as the thorax. In this section the chapter on the abdomen was written by H. C. Lacy the chapter on diagnosis of female pelvic disease was written by E. H. Hagey that on neurologic examination by R. A. Adams and the chapter on psychiatric examination by P H. Drewry Jr. Section three also contains ten chapters on such topics as the diagnosis of the abnormalities of the heart beat and the diseases of the pericardium. Throughout the book the examination techniques are described step by step and the significance of physical signs is indicated.

PATHOLOGY

APPERLY FRANK LONGSTAFF

Patterns of disease on a basis of physiologic pathology 50 figures and 37 charts. Philadelphia J B Lippincott Company, 1951 456 p. illus. 24 cm. $8 00. 995

Contents. Life and disease. Pathology the science of disease. The passive changes in disease—nutrition and its disturbances—disturbances of the peripheral circulation. The reactive changes to injury—the local reaction—inflammation—the general reaction—leukocytosis, fever and antibodies—the local reaction—repair. Infection and resistance. Some special types of inflammation—the reaction to certain other living forms. Pigmentation and certain degenerations. Hypertrophy and hyperplasia. Tumors. Cysts. Diseases of the cardiovascular system. Diseases of blood and the organs of blood formation. Diseases of the urinary system. Diseases of the respiratory system. Diseases of the gastro-intestinal tract and the peritoneum. Diseases of the liver and the gallbladder. Diseases of the pancreas. Diseases of the female reproductive organs. Diseases of the breast. Diseases of the male reproductive organs. Diseases of the cerebrospinal system. Diseases of the ductless glands. Diseases of the locomotor system. Disease and the race. Index.

Note: An unconventional but useful presentation of pathology. The detailed descriptions of diseased tissues and the numerous illustrations that are feature of most texts on pathology are largely lacking. The author has devoted his attention to the beginnings and progressions of diseases and to the compensatory mechanisms set into action by the body. Descriptions of specific diseases and pathological conditions are short but are cast in style that is easy to read. The author is Professor of Pathology at the Medical College of Virginia.

Bell, Elexious Thompson

A text-book of pathology by E. T. Bell. Contributors B. J. Clawson and J. S. McCartney. Seventh edition enlarged and thoroughly revised with 529 illustrations and 5 color plates. Philadelphia Lea & Febiger 1952 1008 p. illus. (part col'd) 24 cm. $12.00 996

Contents: Introduction. Predisposition to disease. Mechanical injuries. Injuries due to physical agents. Injuries due to chemical agents. Diseases due to deficiency of vitamins. Circulatory disturbances. Retrogressive tissue changes. Inflammation. Tuberculosis. The venereal diseases. Other chronic infectious diseases. The mycoses or fungus infections. Bacterial diseases. Tumors. Diseases of the blood. Certain diseases caused by animal parasites. Diseases of the thymus and lymph nodes. Diseases of the spleen. Diseases of the respiratory system. Diseases of the digestive system. Diseases of the pancreas. Diseases of the liver and gall bladder. Diseases of the heart. Diseases of the blood-vessels. Diseases of the urinary system. Diseases of the reproductive organs of the male. Gynecological pathology. Diseases of the ductless glands. Neuropathology. Diseases of the bones and joints. Index.

Note. (865*) A long-established text for medical college students. It is used also as an office reference book by graduate physicians. The descriptions of the pathology of specific diseases are very concise, but they are adequately supplemented by illustrated matter and by references to the literature. The sixth edition was published in 1947. This edition is basically the same but considerable part of the contents has been rewritten. The length of the book has been increased by about 90 pages, 44 illustrations have been added and 17 that appeared in the preceding edition have been dropped. A selection of the recent literature has been added to the bibliographies.

Forbus, Wiley Davis

Reaction to injury pathology for students of disease. Volume II. The reactions of submission and adaptation and the disease entities arising out of their elaboration. 836 illustrations 54 of which are in color. Baltimore The Williams & Wilkins Company 1952 1110 p. illus. (part col'd) 26 cm. $20.00 997

Contents (abridged): Part three. The submissive reaction to injury and the disease entities arising therefrom—disturbances in metabolism and function with and without structural alteration of the tissues. Section one. Disturbances in function and metabolism of cells and tissues with and without their structural alteration. Section two. Disturbances in organic and systemic function and metabolism with and without structural alteration of the tissues. Section three. Disturbance in function and metabolism related to the process of growth and development. Part four. Reaction to injury through adaptation—functionally and structurally adaptive, sometimes compensatory reactions of cells, tissues and organ systems following injury: Section one. Applications of the principle of adaptation to the study of disease. Section two. Adaptive reactions following injury to the circulatory system. Section three. Adaptive reactions following injury to the respiratory system. Section four. Adaptive reactions following obstruction to the passage of body fluids from and through the hollow viscera. Index.

Note: (2084) The second and concluding volume of an unusual treatise on pathology. The author's thesis is that "disease is matter of the abnormal outcome of constantly changing relation between the ultimate biological unit, the cell, and its environment stated another way disease is matter of qualitative and quantitative reaction of an individual to environmental stimulation. A wide range of pathological conditions is covered from this viewpoint and most of the conditions are described in fair detail. Extensive literature references are included. The number of illustrations stated in the title applies to Volume II rather than to the whole work. The author is Professor of Pathology in Duke University Medical School.

Karsner, Howard Thomas

Human pathology. Seventh edition. 562 illustrations in black and white and 22 subjects in color on 14 plates. Philadelphia J. B. Lippincott Company 1949 927 p. illus. 26 cm. $12.00 998

Contents: Part One, General pathology: General phenomena of disease. Pathologic pigmentation. Degenerations and infiltrations. Necrosis and somatic death. Mineral infiltrates and concrements. Atrophy. Disturbances of circulation. Inflammation. Principles of infectious disease. The infectious granulomas. Progressive tissue changes. Tumors. Pathology of special tumors. Part Two, Systemic pathology: The cardiovascular system. The hematopoietic system. The respiratory system. The alimentary canal. Liver and pancreas. The urinary system. The genital system. The ductless glands. The organs of locomotion. The nervous system. The eye and adnexa. The skin. Index.

Note: (2083) A standard and long established work, used both as text in medical colleges and as an office reference book by physicians and surgeons. The scope is comprehensive with both congenital anomalies and the pathology of diseases included, and rare conditions as well as common ones. The sixth edition was published in 1942. The seventh edition represents very extensive revision, in which is reflected the substantial advances gained during World War II and in subsequent years. Two new chapters have been added. About one-fifth of the illustrations are new and about 800 literature references have been added.

Menkin, Valy

Newer concepts of inflammation. Springfield, Illinois Charles C Thomas 1950. 145 p. illus. 22 cm. (American lecture series. Publication no. 70. A monograph in American lectures in dentistry, edited by Edward J. Ryan) $3.50 999

Contents: The problem of increased capillary permeability in inflammation. The role of the hydrogen ion concentration in the development of the inflammatory reaction. The role of inflammation. Defense immunity. Phagocytosis. Chemical factors in inflammation. Leukocytosis in inflammation. The causes of fever and of leukopenia in inflammatory conditions. Repair. Recapitulation and conclusions. Index.

Note. (2084) Supplementary to the author's *Dynamics of inflammation,* New York, 1940, this relatively short book is devoted mainly to the biochemistry of inflammation and especially to the role of biochemical products of injured cells. The chapter on the role of inflammation in immunity also covers developments of recent years. Extensive bibliographies of the recent literature are included.

Miller, Seward Elmore, editor

A textbook of clinical pathology (Formerly edited by Roy R. Kracke and Francis P. Parker) Fourth edition. Baltimore The Williams & Wilkins Company 1952 1060 p. illus. (part col'd) 24 cm. $9.00 1000

Contents: Blood techniques, by L. W. Diggs. Blood cells—bone marrow examination, by L. W. Diggs. Anemias, erythrocytosis, hemoglobinurias, and abnormal hemoglobin compounds, by L. W. Diggs. Laboratory tests used in the diagnosis and management of hemor-

rhagic and thromboembolic diseases, by L. W. Diggs. Diseases primarily affecting leukocytes, by I. Davidsohn. Blood groups, by I. Davidsohn. Blood chemistry by C. Cohn and A. Kaplan. Liver function tests, by S. E. Miller. Renal function tests, by S. E. Miller. Immunologic tests, by R. McBurney. Bacteriologic examination of blood and feces, by R. McBurney. The assay of chemotherapeutic and antibiotic agents, by A. Milzer. Diagnosis of viral and rickettsial diseases, by A. Milzer. Blood parasites, by S. E. Miller. Intestinal parasites—feces, by S. E. Miller. The assay of vitamins, by E. von Haam. The assay of hormones, by E. von Haam. Examination of transudates, exudates, skin and mucous membranes, by E. von Haam. The diagnosis of venereal lesions, by E. von Haam. Syphilis serology, by S. E. Miller. Cerebrospinal fluid, by S. E. Miller. Urine and seminal fluid, by S. E. Miller. Sputum, by S. E. Miller. Gastric and duodenal contents, by S. E. Miller. Index.

Note: (847) In its fourth edition this standard work has been extensively revised. Much less space is now given to descriptions of technical procedures in laboratories and more attention is paid to the selection of tests and to the interpretation of laboratory reports. Simple tests such as can be made in physician's office are still described in detail. Three new chapters have been added and most of the others have been rewritten. Also many new illustrations have been added.

MOORE, ROBERT ALLAN

A textbook of pathology pathologic anatomy in relation to the causes pathogenesis, and clinical manifestations of disease. Philadelphia W B Saunders Company 1951 1048 p. illus. (part col d) 26 cm. $13.00 1001

Contents (abridged) Part I, General pathology: Disturbances in the metabolism of proteins. Disturbances in the metabolism of carbohydrates. Disturbances in the metabolism of lipids. Disturbances in the fluidity of the blood. Inflammation. General pathology of tumors. Part II, Diseases caused by living agents: Portal of entry the skin—bacteria, spirochetes. Lymphogenous or hematogenous routes of infection—bacteria. Portal of entry the alimentary canal—bacteria, spirochetes. Venereal diseases—bacteria, spirochetes, viruses. Miscellaneous infections. Part III, Diseases caused by physical agents: Diseases caused by physical trauma. Diseases caused by changes in atmospheric pressure. Diseases caused by radiant energy. Part IV Diseases caused by chemical agents. Part Diseases caused by deficiencies. Part VI, Diseases of pregnancy and of the extremes of life. Part VII, Diseases of unknown or obscure cause—systemic pathology: The alimentary and respiratory tracts. The cardiovascular-renal system. Rheumatic fever—complications and sequelae. Bright's disease—renal insufficiency. The blood forming tissues. The endocrine glands. The reproductive organs. The nervous system. The musculoskeletal system. The teeth, ears, eyes and skin. Index.

Note: A medical college textbook of wide scope. By treating the subject from the standpoint of disturbances of metabolism, the author has given more than the usual emphasis to the physiologic and chemical aspects of pathology. As the section and chapter titles show diseases of known causes are arranged by cause and portal of entry and diseases of unknown or obscure causes are grouped according to the organs or systems which they affect. The discussions of the individual diseases are very concise. However, literature references classified by disease are included in the chapters. The first edition was published in 1945. In the second edition new chapters have been added on several subjects, including diseases peculiar to the aged, and many paragraphs and longer sections have been added to other sections. Also there has been considerable rearrangement. Pertinent literature published since 1945 has been added to the bibliographies.

NEUBUERGER, KARL THEODORE

Atlas of histologic diagnosis in surgical pathology With a section on Exfoliative cytology by Walter T Wikle. Photography by Glenn E. Mills. Baltimore The Williams & Wilkins Company 1951 460 p. illus. 26 cm. $11 00. 1002

Contents: Skin and subcutaneous tissues. Lymph nodes. Spleen. Muscles and tendons. Bones, joints, and bursae. Nose and paranasal sinuses. Larynx and trachea. Bronchi and lungs. Pleura. Thymus. Thyroid. Parathyroids. Branchiogenic lesions. Carotid body. Oral cavity. Salivary glands. Tonsils. Esophagus. Stomach. Intestines. Appendix. Peritoneum. Liver. Gall bladder. Pancreas. Adrenals. Kidneys and ureters. Urinary bladder and urethra. Prostate. Male genitalia except prostate. Uterus. Fallopian tubes. Ovaries. Vagina and vulva. Breast. Meninges (cerebral). Brain. Spinal cord and spinal meninges. Pituitary. Peripheral and sympathetic nervous systems. Blood vessels. Eye. Ear. Exfoliative cytology: Vaginal tract. Respiratory tract. Gastrointestinal tract. Urinary tract. Body fluids. Supplement. Index.

Note: A comprehensive work in which the author has endeavored to include microphotographs that exhibit all the common lesions observable in tissues. Rare conditions have been omitted; nevertheless considerable range of material has been included for all of the principal systems and organs. The special section on exfoliative cytology pertains to the interpretations of smears. Each of the 830 figures is accompanied on the same page with short description in which diagnostic features are emphasized. The author is Professor of Pathology in the School of Medicine of the University of Colorado.

UNITED STATES NAVAL MEDICAL SCHOOL

Color atlas of pathology Prepared under the auspices of the U S Naval Medical School of the National Naval Medical Center Bethesda, Maryland. Illustrated with 1053 figures in color on 365 plates. Philadelphia J B Lippincott Company 1950 546 p illus (col d) 25 cm. $20.00 1003

Contents: Diseases of the hematopoietic system. Diseases of the reticulo-endothelial system. Diseases of the respiratory tract. Diseases of the cardiovascular system. Diseases of the alimentary tract. Diseases of the liver. Diseases of the kidney and urinary tract. Diseases of the musculoskeletal system. Index.

Note: The wide range of colored illustrations makes this work unique. Each of the chapters is divided into "descriptive survey" and color unit. The descriptive survey is compact summary of the diseases of specific physiological system. The color survey consists of reproductions of colored photographs of gross and microscopic pathological specimens. These are reproduced three to the page and in the outer column. The inner column is occupied by concise but specific description of the illustration. The book was prepared over considerable period of years at the National Naval Medical Center. Essentially it is reference volume of interest to pathologists, diagnosticians, and medical practitioners in all fields.

YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY

The 1951 year book *of* pathology *and* clinical pathology (January–December 1951) Pathology edited by Howard T Karsner Clinical pathology edited by Arthur Hawley Sanford. Chicago The Year Book Publishers, Inc., 1952 454 p. illus. 20 cm. $5.50 1004

Contents: Pathology: General pathology. Cardiovascular system. Hemopoietic system. Respiratory system. Alimentary tract and associated glands. Urinary system and male genitalia. Female genitalia and breast. Glands of internal secretion. Bones and muscles. Skin. Nervous system and eye. Clinical pathology: Hematology. Chemistry. Bacteriology. Mycology. Serology. Cerebrospinal fluid. Parasitology. Allergy—cytology—endocrinology. Microscopy. Apparatus. Index. Index to authors.

Note: (870*) As in the related books issued by the publisher this annual is designed to provide digest and key to the significant literature in this field published in the world's medical periodicals during the period noted in the title. The chapters consist chiefly of abstracts of fair length. Some abstracts are supplemented by notes written by the editor. The issue at hand contains as special features four signed articles. There are 147 figures.

PHARMACOLOGY AND TOXICOLOGY

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

Epitome of the Pharmacopeia of the United States and the National Formulary with comments. Ninth edition. Philadelphia J B Lippincott Company 1951 255 p. 20 cm. $2.50 1005

Note: A standard compendium of information on drugs selected from the standpoint of their usefulness to practicing physicians. It is based on the *U. S. Pharmacopeia* XIV and the *National Formulary* IX but the technical information concerning tests that appears in these books is omitted. For each of the drugs listed information is given on the following points: "Official title, synonyms, definitions, physical properties, actions, uses and dosage.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

New and nonofficial remedies containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1 1951 Philadelphia J B Lippincott Company 1951 782 p illus. 20 cm. $3 00 1006

Contents: Section A, Accepted products: Agents used in allergy. Analgesics. Anesthetics. Local anti-infectives. Systemic anti-infectives. Antispasmodic preparations. Astringents, caustics and sclerosing agents. Autonomic drugs. Blood. Agents affecting blood formation and coagulation. Cardiovascular agents. Central nervous system depressants and stimulants. Contraceptives. Diagnostic aids. Diuretics. Gastro-intestinal agents. Hormones and synthetic substitutes. Immunologic agents. Agents used in metabolic disorders. Oxytocics. Pharmaceutic and therapeutic aids. Unclassified therapeutic agents. Vitamins. Section B, Tests and standards for nonofficial products. Section C, Bibliography of unaccepted products.

Note (2097) An annual publication in which drugs submitted voluntarily by pharmaceutical manufacturers to the Council are described and critically reviewed. The information on each drug covers the following: trade name, chemical name, structural formula (in most cases) actions and uses, dosage, names of manufacturers, and forms (i.e. tablet, ampul, solution) and types and sizes of packages in which the product is currently marketed. The "bibliography of unaccepted products" is list of articles—most of which were published in the *Reports* of the Council—on remedies that were submitted but were not accepted for inclusion in NNR. Although much of the text of any particular edition is carried over to the succeeding edition, all of it is carefully reviewed and no product is retained in the list that is no longer considered useful. The 1951 edition represents more extensive revision than usual because the rules for the submission of articles were modified and reorganized and standard style for description was adopted.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

Useful drugs a selected list of essential drugs with brief discussions of their actions, uses and dosage. Issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Fifteenth edition. Philadelphia J B Lippincott Company 1952 262 p. 29 cm. $2 50 1007

Note (2098) The purpose of this authoritatively selected list of drugs is stated as follows in the preface to the fifteenth edition. *Useful drugs* may be regarded as being selected materia medica. It contains authoritative information on the chemical and the physical properties, as well as the actions, the uses and the dosages of well established medicinal agents. By virtue of the degree of selection employed for its contents, *Useful drugs* may well serve as basis for medical school instruction and state board examination. The arrangement of the book is alphabetical by name of drug. The information given on each drug includes description of properties, action and uses, and dosage. The present edition is based on review of the fourteenth edition of *The United States Pharmacopeia*, the ninth edition of the *National Formulary* and the 1950 edition of *New and non-official remedies.*

BARON ABRAHAM LOUIS

Handbook of antibiotics. New York Reinhold Publishing Corporation 1950. 303 p 24 cm. $8.00 1008

Note: A reference manual in which information about 141 antibiotics is presented. The main part of the work is arranged alphabetically by name of substance; for example: actidione, actinomyces lysozyme, actinomycetin, actinomycin, actinorhodine, actinorubin. Under the name of each compound information is generally presented on the following points: name of discoverer and date of discovery; source; isolation and purification; chemistry; bacteriology; pharmacology; and pertinent literature. Other features of the volume are an article on the certification of antibiotics, by Henry Welch of the United States Food and Drug Administration; one on the selection and registration of trademarks for antibiotics, by W. J. Derenberg of the United States Patent Office; and tabulation of existing registrations for antibiotics.

BECKMAN, HARRY

Pharmacology in clinical practice. With 152 illustrations. Philadelphia W B Saunders Company 1952 839 p. illus. 25 cm. $12.50. 1009

Contents. Section 1, Clinical use of drugs: Allergy Anesthesiology Antibiotics. Autonomic pharmacology Cardiology (including the vascular diseases) Dentistry Dermatology Endocrinology Gastroenterology Hematology Internal medicine. Neuropsychiatry Obstetrics and gynecology Ophthalmology Otorhinolaryngology. Pediatrics. Sulfonamides. Surgical specialties. Venereology Section II, Drug data: A compendium of drugs. Index.

Note. In this the author Director of the Departments of Pharmacology at the Marquette University Schools of Medicine and Dentistry has made special effort to present pharmacology from the viewpoint of practitioners of medicine and dentistry. The table of contents given above shows the special arrangement of the material. Under each of the main headings in the first part diseases and other conditions amenable to drugs are concisely described first, then the pharmacology is taken up. Drugs are discussed in connection with conditions to which they apply and their dosage and effects are indicated. The second section is concise catalogue of drugs in which their chemical nature, physical properties, etc., are briefly stated. It is arranged alphabetically and includes some U. S. A. proprietary names. Instead of referring to an extensive literature, the author mentions books for supplementary reading. An excellent index covering nearly 70 pages facilitates reference use of the volume.

BEYER, KARL H.

Pharmacological basis of penicillin therapy Springfield Illinois Charles C Thomas 1950. 214 p illus. 22 cm. (American lecture series. Publication number 77 American lectures in pharmacology edited by Chauncey D Leake) $4.50 1010

Contents (abridged) Penicillin pharmacology Mode of action of penicillin. Repository penicillin preparations. Penicillin excretion. Addendum—benemid. Index.

Note. The reactions of the body to penicillin rather than the reactions between drug and organisms with which the body may be infected are the subject of this monograph. The physiological reactions to aqueous solutions and to oleaginous suspensions, for example, are described; and there is much discussion of methods of delaying the elimination of penicillin from the body. One chapter is devoted to discussion of the enzymological basis of the inhibitory effect of carinamide on the renal excretion of the drug. There is bibliography of 47 references. The book is of interest both to general medical practitioners and to pharmacologists.

BURGER ALFRED

Medicinal chemistry chemistry biochemistry therapeutic and pharmacological action of natural and synthetic drugs. New York. Interscience Publishers Inc., 1951 2 vols. 23 cm. Each $10 00 1011

Contents (abridged) Volume 1: Historical development of medicinal chemistry. Relation of chemical structure and biological activity. Physical properties and biological activity. Biological study of drugs. Anesthetics. Hypnotics and sedatives. Anticonvulsant drugs. Analeptics. Cardiovascular drugs. Parenteral fluid therapy. Diuretics. Anticoagulants. Drugs eliciting symptoms in the gastro-intestinal tract. Adrenergic drugs. Parasympathetic stimulants. Curare and curariform drugs. Antispasmodics. Histamine and antihistaminic drugs. Diagnostic agents. Thyroid and antithyroid drugs. Drugs for the treatment of cancer. The vitamins. Selected drugs.

Index. Volume III The hormones. Essential amino acids and fatty acids. Theories of metabolite antagonism. Dynamics in chemotherapy. The sulfonamide drugs. Antimalarials. Chemotherapy of acid-fast infections. Metal-free drugs used in tropical diseases. Antibiotics. Antifungal agents. Anthelmintics. Antiseptics. Cumulative index, volumes I–III.

Note: An inclusive treatise in which the chief drugs currently used in medicine are discussed and described. The preliminary chapters are brief; for example, the chapter "Relation of chemical structure and biological activity" is only nine pages long. Most of the space is given to chapters on the classes and groups of drugs which are named in the table of contents. In these chapters the drugs are described from the chemical standpoint. A formula diagram is usually included; and in addition such points as theory of action, methods of testing, and synthesis are covered. Numerous references to pertinent articles are given as footnotes but the author did not attempt an extensive bibliography.

DACK, GAIL MONROE

Food poisoning. Revised edition. Chicago The University of Chicago Press, 1949 184 p 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $3 75 1012

Contents: Chemical poisoning in food. Poisonous plants and animals. Botulism. Staphylococcus food poisoning. Salmonella. Alpha-type streptococci (*Streptococcus fecalis*) in relation to food poisoning. Significance of other bacteria in food poisoning. Infections to be differentiated from food poisoning. Author index. Subject index.

Note (1197) A compact survey of this subject written from the public health viewpoint. It describes the chief causative agents, their effects, cites typical outbreaks of public health interest, and refers to selected literature. The clinical manifestations of the various forms of food poisoning are usually mentioned, but the author has not attempted to cover these from the viewpoint of clinical medicine. The first edition appeared in 1943. In this edition the work is 60 pages longer and now incorporates many advances in the knowledge of this subject made during World War II and the subsequent years. Both the text and bibliographies have been revised.

DAVISON, FORREST RAMON

Handbook of materia medica, toxicology and pharmacology for students and practitioners of medicine. Fourth edition With 35 illustrations, including 4 in color St. Louis The C. V Mosby Company 1949 illus. (part col d) 720 p. 22 cm. $9.00 1013

Content (abridged) The basic principles of pharmacology. Materia medica. Prescription writing. Toxicology. Drugs acting on skin and mucous membranes. Antiseptics, disinfectants, and anti-infectives. Drugs acting on the central nervous system. Drugs acting on the peripheral nervous system. Cardiovascular drugs. Oxytocic drugs. Diuretics. Biologicals. Miscellaneous drugs. Index.

Note: A standard handbook. The fundamentals of pharmacology, prescription writing, toxicology, etc., are outlined in the preliminary chapters, as indicated in the table of contents. However, most of the space is given to specific descriptions of classes of drugs and individual drugs. In a typical monograph on a drug information is supplied on the following points: name, chemical structure, pharmacological action, toxicology, therapeutic uses, and preparations. Literature references are furnished, and in this edition they include publications issued as recently as 1948.

GROLLMAN ARTHUR

Pharmacology and therapeutics a textbook for students and practitioners of medicine. 104 illustrations. Philadelphia Lea & Febiger 1951 828 p illus. 24 cm. $10 00 1014

Contents: Introduction. General anesthesia. The aliphatic alcohols. Morphine and other opium alkaloids. Analgesics and antipyretics. Hypnotics and sedatives. Anticonvulsants or antiepileptics. Convulsants and analeptics. The xanthines—caffeine, theobromine and theophylline. Drugs acting on autonomic effector cells. Epinephrine and other drugs stimulating structures innervated by adrenergic nerves. Drugs inhibiting structures innervated by adrenergic nerves. Drugs stimulating structures innervated by cholinergic nerves. Depressants of the postganglionic cholinergic nerves. Inhibiting autonomic ganglia and skeletal muscles. Histamine and antihistaminic compounds. Local and regional anesthetics. Drugs acting primarily on the cardiovascular system. Drugs acting primarily on the gastrointestinal tract. Chemotherapy. The sulfonamides and related compounds. The antibiotics. Quinine and other antimalarials. Emetine and other amebicidal drugs. Local anti-infectives and other drugs characterized chiefly by their local action. The hormones and drugs acting on the endocrine organs. The vitamins. Drugs acting on the blood and hematopoietic system. Water and other non-metallic compounds. The metalloids—arsenic, antimony and bismuth. The heavy metals. Vaccines, sera and miscellaneous biologicals. Appendices. Index.

Note: A modern work in which the great advances in chemotherapy in recent years are adequately reflected. As is common in books of this kind, most of the space is devoted to discussions and descriptions of groups of drugs and specific drugs. In general, the information given on each drug includes chemical name, structural formula (if known), physiological action, therapeutic uses, dosage, and methods of administration. The appendices contain a short statement on prescription writing. Selected literature references are given throughout. The author is Chairman of the Departments of Physiology and Pharmacology of the Southwestern Medical School of the University of Texas.

HAMERSLAG FRANK E

The technology and chemistry of alkaloids. New York D Van Nostrand Company Inc., 1950 319 p. illus. 23 cm. $7.00 1015

Contents: Introduction. Production of alkaloids. The alkaloids of aconite. Atropines and related alkaloids. The alkaloids of coca. Colchicine. The curare alkaloids. Alkaloids of ephedra. The alkaloids of ergot. Hydrastine and berberine. The alkaloids of ipecacuanha. The alkaloids of lobelia. Nicotine. The alkaloids of nux vomica. Physostigmine and related alkaloids. Alkaloids of pilocarpus. Sparteine. The solanaceous alkaloids. Veratrine. Yohimbine. Index.

Note: Essentially, this is a book on the manufacture of alkaloid compounds. For each kind of compound listed in the table of contents the following information is given: chemistry, natural sources, manufacturing methods, pharmacological properties and therapeutic uses, analytical methods. There are good reference lists appended to the chapters; these cite the patent as well as the periodical material.

JENKINS GLENN LLEWELLYN AND WALTER H. HARTUNG

The chemistry of organic medicinal products. Third edition New York John Wiley & Sons Inc., 1950. 745 p illus. 24 cm. $7.50 1016

Contents: Hydrocarbons. Halogenated hydrocarbons. Hydroxyl derivatives of hydrocarbons. Ethers and other peroxides. Carbonyl group. Carboxyl group. Natural mixtures. Amines and amino derivatives. Cyanides and allied compounds. Sulfur compounds. Compounds of phosphorus, arsenic, and antimony. Metallic derivatives of organic compounds. Heterocycles containing one heteroatom. Heterocycles containing two or more heteroatoms. Stereoisomerism. Some physicochemical properties of medicinal products. General bibliography. Index.

Note (2160) An introductory but fairly substantial survey. The organization of the book and much of the discussion are based on the chemical aspects rather than the medical. Usually the material on a substance or product includes its chemical history, one or more structural diagrams, and descriptions of the important methods of synthesis. However, physiological reactions and medical uses also are mentioned. In this edition many sections, particularly those on the antibiotics, the antimalarials, the antihistamines, and enzymes, have been rewritten in line with recent advances. Also, there have been extensive changes in the bibliographical footnotes and some additions to the general bibliography. In addition to its use as a text for college students of organic chemistry, medicine, pharmacology, etc., the book has some value as a reference manual.

KAREL LEONARD, AND ELIZABETH SPENCER ROACH, compilers

A dictionary of antibiosis. New York Columbia University Press 1951 373 p. 25 cm. $8.50. 1017

Note: A reference book of comprehensive scope within its field. It includes not only the names of fungi and other plants from which antibiotic substances have been derived but also the names of those that have been tested; the names of organisms (mostly bacteria) used

its tests, and the names of antibiotic substances. Most entries are short and serve only to define the term and provide literature reference. However articles of considerable length are included for the successful antibiotics. The article on aureomycin, for instance, runs to eight columns and covers a wide range of chemical and clinical information. There is an extensive bibliography of the international literature.

KRANTZ JOHN CHRISTIAN, JR., AND C JELLEFF CARR

The pharmacologic principles of medical practice a textbook on pharmacology and therapeutics for medical students, physicians and the members of the professions allied to medicine. Second edition. Baltimore The Williams & Wilkins Company 1951 1116 p. illus. (part col d) 24 cm. $10 00. 1018

Contents (abridged) Part I, The history of pharmacology pharmacologic principles, and an introduction to drugs The historical development of pharmacology The nature and source of drugs. Drug control—the Pharmacopeia and other drug compendia. Methods of drug administration and factors which modify dosage. Part II, The anti-infective drugs. Part III, The response of the skin and mucous membranes to drugs. Part IV The response of the central nervous system to drugs. Part V The response of the autonomic nervous system to drugs. Part VI, The pharmacologic response of the heart and circulation. Part VII, The pharmacologic response of the reproductive system. Part VIII, Effect of pharmacologic agents on metabolism. The response of water balance to pharmacologic agents. Altering renal threshold by pharmacologic agents. Treatment of the arthritides—the adrenal corticotrophic hormone and cortisone. Calcium-phosphorus metabolism and calciferol and parathyroid hormone. Part IX, Appendix: The discovery and evaluation of new drugs. Typical prescriptions. Index.

Note. A successful textbook in which the main emphasis is on pharmacologic principles. However, most of the space is devoted to concise discussions of individual drugs. In these discussions the properties and chemical structure of the drug are first described, then the physiologic effects on blood pressure, the heart, respiration, muscle, gastrointestinal tract, metabolic processes, the fate of the drug in the body its toxicology and finally its uses are covered. The first edition appeared in 1949 The authors are members of the faculty of the School of Medicine of the University of Maryland.

MEDICINAL CHEMISTRY Volume I. A series of reviews prepared under the auspices of the Division of Medicinal Chemistry of the American Chemical Society C M. Suter editor in chief New York John Wiley & Sons Inc. 1951 473 p. illus. 24 cm. $10 00 1019

Contents: Antithyroid compounds, by G W Anderson. Antispasmodic derivatives of carboxylic acids, by R. R. Burtner Antibiotics from plants, by C. J Cavallito Benzoates and substituted benzoates as local anesthetics, by T P Carney Analgesics: A. Arylalkylamines, by E. L. Fellows and G. E. Ullyot, B. Partial structures related to morphine, by J Lee. Index.

Note: The first volume published of a series that will contain lengthy monographic reviews of the knowledge of groups of chemical compounds of medicinal interest. Special attention will be given to relations between chemical structure and pharmacological activity In the monographs in the volume at hand much of the data is presented in tabular form and more information is included than the length of the book would indicate Footnote references are given to the pertinent literature including patents. The work is of interest not only to medical men but also to manufacturing pharmacists and biochemists.

MODERN DRUG ENCYCLOPEDIA AND THERAPEUTIC INDEX. Edited by Marion E. Howard. Fifth edition. New York Drug Publications, Inc. 1952 1431 p 24 cm. $15 00 1020

Contents: Pharmaceuticals. Biologicals. Allergens. Addenda. Therapeutic index. Generic name index. Manufacturers' and distributors' index. General index.

Note: A standard reference book of information about drug products manufactured in the United States of America. Products are entered under the names under which they are sold, whether this is a generic name or a trade name. For example, there is a description of "Cevalin" as well as one of Vitamin C. Generally speaking the following information is given for each drug: the trade name and its pronunciation, manufacturer's name, general description, action and uses, methods of administration, dosages, and forms (i.e. tablet, liquid, etc.) in which it is supplied. The volume is thoroughly indexed. Quarterly supplements issued by the same publisher serve to keep the information up to date. New descriptions introduced in the present edition number 1475 and many of the descriptions carried over have been rewritten.

NATIONAL ACADEMY OF SCIENCES

The chemistry of penicillin. Report on a collaborative investigation by American and British chemists under the joint sponsorship of the Office of Scientific Research and Development, Washington D C. and the Medical Research Council, London. Compiled under the auspices of the National Academy of Sciences, Washington D C., pursuant to a contract with the Office of Scientific Research and Development. Princeton Princeton University Press, 1949 1094 p. illus. 28 cm. $36 00. 1021

Contents (abridged) Brief history of the chemical study of penicillin, by H. T Clarke and others. Isolation and characterization of the various penicillins, by O. Wintersteiner and others. Penillic acids and penillamines, by A. H. Cook. Desthiobenzylpenicillin and other hydrogenolysis products of benzylpenicillin, by E. Kaczka and K. Folkers. The thiocyanate derivative of benzylpenicillin methyl ester, by V du Vigneaud and D B. Melville. The X-ray crystallographic investigation of the structure of penicillin, by D. Crowfoot and others. Infrared spectroscopic studies on the structure of penicillin, by H. W Thompson and others. The constitution of penicillins, by J R. Johnson and others. Penicillamine, its analogs and homologs, by H. M. Crooks. Penilloaldehydes and penaldic acids, by E. V Brown. Biosynthesis of penicillins, by O. K. Behrens. Chemical modifications of natural penicillins, by R. D. Coghill and others. Oxazoles and oxazolones, by J W Cornforth. Attempted synthesis of penicillins, by W E. Bachmann and M. W Cronyn. Methyl benzylpenaldopenicilloate, by J. H. Hunter and others. Thiazolidines, by A. H. Cook and I. M. Heilbron. The chemistry of β-lactams, by R. A. Ballard and others. Synthetic benzylpenicillin, by V du Vigneaud and others. Assay of penicillins, by J. V Scudi and H. B. Woodruff Appendix. Subject index.

Note A comprehensive survey of the results of an international effort during World War II and later to ascertain the chemical formula of penicillin, and to synthesize it in the laboratory. Thirty-nine British and American scientific groups participated in the effort and some hundreds of progress reports were issued for the information of all participants while the research was going on. This book is based on these progress reports. However, instead of reprinting the reports, they have been used as the basis of the twenty nine chapters of the present work. Aside from its major and fundamental significance in chemotherapy the work is a monument to large-scale international collaboration on a scientific problem such as had never been attempted before.

NEW YORK ACADEMY OF MEDICINE. SECTION ON MICROBIOLOGY

Evaluation of chemotherapeutic agents. Symposium held at the New York Academy of Medicine, March 25 and 26 1948. Edited by Colin M. MacLeod. New York Columbia University Press, 1949 205 p. illus. 23 cm. $4 00 1022

Contents Foreword, by G. Shwartzman. Introduction, by C. M. MacLeod. The significance of drug concentration in the blood, as applied to chemotherapy by E. K. Marshall, Jr. Blood levels, renal clearance, and chemotherapeutic activity with particular reference to arsenicals and penicillin, by H. Eagle. The binding of chemotherapeutic agents to proteins and its effect on their distribution and activity by B. D Davis. The problem of microbial resistance to chemotherapeutic agents, by H. E. Alexander. Defense mechanisms of the host in relation to chemotherapy of acute bacterial infections, by W B. Wood, Jr. The nature of the lesion and the response to antimicrobial therapy by W McDermott. Transmission antibiotic

therapy of localized soft tissue infections, by E. K. Sanders and J. R. Lockwood. Chemoprophylaxis of meningococcal infections and of bacillary *dysentery* by F. R. Cheever. An evaluation of chemoprophylaxis of streptococcal infections, by A. T. Wilson. [illegible] of antimalarial drugs, by J. A. Shannon. The chemotherapy of tick [illegible] diseases, by J. F. Fox. Chemotherapy of [illegible] infections, by F. L. Horsfall, Jr. and H. R. Ginsberg. The experimental evaluation of chemotherapeutic agents in cancer by C. C. Stock and C. P. Rhoads. The clinical evaluation of chemotherapeutic agents in cancer by D. A. Karnofsky and J. H. Burchenal.

Note. A collection of original papers prepared for the symposium named in the book's title. The symposium was planned as [illegible] general evaluation of chemotherapeutic drugs and as [illegible] general presentation of evaluatory techniques in relation to particular groups of diseases. No attempt was made to assess the value of specific substances, for example, penicillin. The papers are addressed to graduate workers in fields concerned with chemotherapeutic agents, particularly medicine. Each paper is accompanied by literature references. There is no index to the volume.

SALTER, WILLIAM THOMAS

A textbook of pharmacology: principles and application of pharmacology to the practice of medicine. Philadelphia W B Saunders Company 1952 1240 p. illus. 26 cm. $15.00 1023

Contents (abridged) Part I, General principles of pharmacology. Part II, Drug action on physiological mechanisms: Section I, The relief of pain and sensory disturbance. Section II, General anesthesia. Section III, Convulsions and coma. Section IV Drugs acting on the circulation. Section [illegible] Endocrine and vitamin regulators. Section VI, The autonomic nervous system. Part III, The application of drugs in clinical medicine: Section VII, Drugs and body systems. Section VIII, Toxic substances of industrial and homely origin. Section IX, Chemotherapeutic and chemoprophylactic agents. Part IV Toxicology. Epilogue. Index.

Note. The material in this text has been judiciously selected from the standpoint of [illegible] that is valuable to present-day medical students and practitioners. Nevertheless, the book is [illegible] large one with about 800,000 words of text. Information is included on background aspects such as the development of pharmacological knowledge and the development of our knowledge of drugs, but most of the space is given to discussions of the pharmacological principles of specific drugs and groups of related drugs. In the drug descriptions, the emphasis is on physiological effects and on what becomes of the drug in the human body but information is included also on the appearance and other properties of the drugs and on dosage. Most of the chapters contain an interesting section called "unsolved problems." The chapters are supplemented by substantial reference lists. The author is Professor of Pharmacology in the Yale University School of Medicine.

SOLOMON CHARLES

Pharmacology and therapeutics. With the collaboration of Elizabeth S. Gill. Sixth edition. 100 illustrations, many in color Philadelphia J B Lippincott Company 1952 656 p. illus. (part col'd) 21 cm. $4.50 1024

Contents: Unit I, Introduction. Pharmacy (drugs and solutions) Unit II, Drugs acting on the skin and the mucous membranes. Antiseptics and disinfectants (anti-infectives). Unit III, Drugs acting on the nervous system. Cerebrospinal stimulants. Cerebrospinal depressants. Drugs affecting the peripheral nervous system. Drugs acting on the autonomic nervous system. Unit IV Drugs used for their effect upon the respiratory tract. Unit [illegible] Drugs which affect the heart and blood vessels. Drugs affecting the blood and blood-forming organs. Unit VI, Drugs acting on the alimentary tract. Unit VII, Drugs acting on the urinary tract. Unit VIII, Drugs acting chiefly on the reproductive system. Drugs affecting the temperature of the body. Unit IX, Specifics and so-called specific drugs. Substances affecting metabolism, nutrition and growth. Biologic products. Allergens. Hormones. Enzymes and enzyme systems. Toxicology. Nonmedical therapeutics. Treatment of emergencies. Dosage of commonly used drugs. Glossary of the terms used in the text. Bibliography. General index. Index of symptoms and diseases.

Note: (2344a) A text and reference book for students and graduate nurses. Its purpose is to provide the general and specific knowledge of drugs and their uses that is necessary to assist in cooperating with physicians and in prescribing and administering in emergencies when no physician is available. In the first few units, certain essentials of pharmacy such as weights and measures and dosages are covered. Most of the remainder of the book is devoted to descriptions of specific drugs, especially in regard to their properties, physiological actions, preparations, and dosage. The 5th edition was published in 1948 and was entitled *Pharmacology, materia medica and therapeutics.* In this edition the book has been revised to conform to *United States Pharmacopeia* XIV and *National Formulary* IX. Many paragraphs and larger sections have been revised or entirely replaced with new material. Improvements have been made in the indexing of the book. Also the type has been reset and the book is now printed in [illegible] new two-column format.

TANNENBAUM ALBERT editor

Toxicology of uranium survey and collected papers. New York McGraw Hill Book Company Inc. 1951 333 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 23) $4 75 1025

Contents: Part A, Introduction to the toxicology of uranium: Introduction and general considerations, by A. Tannenbaum and H. Silverstone. Nature of uranium poisoning as observed in mice, by A. Tannenbaum and H. Silverstone. Factors affecting uranium poisoning, by A. Tannenbaum and H. Silverstone. Distribution in tissues and excretion of uranium, by A. Tannenbaum and H. Silverstone. Gross and microscopic pathology of uranium poisoning, by A. Tannenbaum. Biochemical effects of uranium poisoning, by S. Schwartz. The mechanism of action of uranium and the transport of uranium in the tissues, by E. S. G. Barron. Summary of experimental studies. Relation to uranium poisoning in man, by A. Tannenbaum and H. Silverstone. Part B, Collected papers: Uranium poisoning. Review of literature to 1943 by S. T. Cantril and J. I. Nickson. Some aspects of the toxicology of uranium compounds, by A. Tannenbaum and H. Silverstone. Failure to affect toxicity of ingested uranium chloride by dietary acid (HCl) or base ($NaHCO_3$) by A. Tannenbaum and H. Silverstone. Accumulation of uranium in the tissues of mice ingesting uranyl nitrate, by A. Tannenbaum and H. Silverstone. Relation of uranium excretion to the total amount of uranium in the mouse, by A. Tannenbaum and H. Silverstone. Studies on acquired tolerance to uranium, by A. Tannenbaum and H. Silverstone. Distribution of U^{233} in tissues of mice following injection of uranyl nitrate, by A. Tannenbaum and others. Tracer studies of the distribution and excretion of uranium in mice, rats, and dogs, by A. Tannenbaum and others. The transport of uranium in the tissues, by J. A. Muntz and E. S. G. Barron. Tissue metabolism of rats treated with uranyl nitrate, by J. Meyer and others. The reversible inhibition of enzymes by uranium, by T. P. Singer and others. Effect of uranium on the metabolism of yeast and bacteria, by J. A. Muntz and others. An introduction to the nonclassified literature dealing with biochemical studies of experimental uranium poisoning, by S. Schwartz and E. J. Katz. Uranium distribution studies, by E. J. Ferretti and S. Schwartz. The effect of uranium exposure on urinary catalase excretion, by E. J. Katz and others. Studies of porphyrin metabolism—the effect of metals on coproporphyrin excretion, by S. Schwartz and E. M. Zagaria. *Index.*

Note: A volume made up chiefly of reports of original investigations on the toxicology of uranium made in the course of the work on the Manhattan Project during World War II. The findings are summarized in the papers in Part A. In Part B the reports themselves are assembled. Literature references are included with the papers.

TRELEASE SAM FARLOW AND ORVILLE A. BEATH

Selenium its geological occurrence and its biological effects in relation to botany chemistry agriculture, nutrition, and medicine. New York Published by the authors, 1949 292 p. illus. 24 cm. $5.50 1026

Contents History. Selenium indicator plants. Distribution of selenium in rocks and soils. Accumulation of selenium by plants. Selenium poisoning in animals. Selenium in relation to public health. Prevention and control of selenium poisoning. Chemistry of selenium. Bibliography. Author index. Subject index.

Note The poisoning of cattle as [illegible] result of eating vegetation grown on seleniferous soils is [illegible] serious local problem in some parts of the United States. The poisoning of human beings in the same way has not been so clearly established, but some cases appear in clinical literature and there have been several area studies by public health authorities. This book is [illegible] summary of the current knowledge.

A considerable part of the space is devoted to background information such as data on plants that absorb selenium and the quantities absorbed. There is an extensive bibliography

VOEGTLIN, CARL, AND HAROLD C HODGE, editors

Pharmacology and toxicology of uranium compounds with a section on the pharmacology and toxicology of fluorine and hydrogen fluoride. New York McGraw Hill Book Company Inc. 1949 2 v illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI—Vol. 1) $14.25 1027

Contents: Part I, The pharmacology and toxicology of uranium compounds. The chemistry of uranium compounds, by A. L. Dounce and J. F Flagg. Analytical methods for determining uranium and fluorine, by J. F Flagg. Statistical methods, by D. V Tholemes and others. Pathological anatomy following uranium poisoning, by T R. Barnett and R. G. Metcalf. Characteristics of uranium poisoning, by J. H. Wills. Toxicity following parenteral administration of certain soluble uranium salts, by F Haven and H. C. Hodge. Studies of toxicity of various uranium compounds when fed to experimental animals, by E. A. Maynard and H. C. Hodge. The toxicology of compounds of uranium following applications to the skin, by J. A. Orcutt. The toxicology of uranium compounds following application to the eye, by J A. Orcutt. Toxicity following inhalation, by H. E. Stokinger and others. The distribution and excretion of uranium, by W F Neuman. Tolerance to uranium compounds, by F Haven. The action of uranium on enzymes and proteins, by A. L. Dounce and T H. Lan. Catalasuria as a sensitive test for uranium poisoning, by A. L. Dounce and others. The mechanism of action of uranium compounds in the animal body by A. L. Dounce. Studies on human exposure to uranium compounds, by J W Howland. Part II, The pharmacology and toxicology of fluorine and hydrogen fluoride: Toxicity following inhalation of fluorine and hydrogen fluoride, by H. E. Stokinger. Appendix. Index.

Note: These volumes are based on the work of the Division of Pharmacology of the Manhattan District Project which, during World War II, was charged with the development of the atomic bomb. Much of the information contained in them was derived from original investigations; however results reported in the literature have been included also.

VON OETTINGEN W F

Phenol and its derivatives the relation between their chemical constitution and their effect on the organism. From the Laboratory of Physical Biology Experimental Biology and Medicine Institute, The National Institutes of Health. Washington D C Government Printing Office 1949 408 p illus. 23 cm. (United States. Federal Security Agency Public Health Service National Institutes of Health bulletin no. 190) Paper $0.80. 1028

Contents (abridged) Introduction. The monophenols: Relation between chemical constitution and physiological properties of monophenols. The diphenols: Relation between chemical, physical, and physiological properties of diphenols. The triphenols: Relation between the physicochemical properties of triphenols and their physiological effect. The halogenated phenols: Comparison of the antiseptic and toxic properties of mono- di- tri- tetra- and pentachlorophenols. Halogenated alkyl phenols. Relation between chemical constitution and antiseptic and toxic action of chlorinated phenols. The aminophenols. The nitrophenols: Comparison of the pharmacological and toxicological properties of mono- di- and trinitrophenols. The phenolic aldehydes. The phenolic acids. The phenolic ethers. Comparison of the action of phenolic ethers with those of phenol. Comparison of the effects of blocking the phenolic group of various phenolic compounds and their physiological action. Bibliography. Index.

Note. Phenols and the compounds synthesized from them are described in the work from the standpoint of physiological or toxicological effect. The publication forms also a review of the literature of the subject and includes a bibliography of 35 pages. It is of interest to industrial chemists, pharmacologists, and other persons who are concerned professionally with industrial and public health.

VON OETTINGEN, W F

Poisoning a guide to clinical diagnosis and treatment. New York Paul B Hoeber, Inc., 1952 524 p 24 cm. $10.00. 1029

Contents: Part one, Introduction Classification and diagnosis of poisoning. Medico-legal responsibilities. Emergency measures and equipment. Part two, Diagnosis: Taking the patient's history Structural and functional pathology Biochemical changes. Laboratory tests. Part three, Management: The rationale of treatment. Removal of the toxic agent. Elimination of the toxic agent. Detoxication of the absorbed poison. Symptomatic treatment. General measures; treatment of after-effects. Part four Symptoms and treatment of 441 types of poisoning. Index.

Note: An authoritative and detailed work which is organized as a reference guide for practical office use by physicians. Part two contains an extensive arrangement under physiological systems of signs and symptoms with lists of poisonous substances that may give rise to them. Part four runs to 270 pages and is an alphabetically-arranged collection of short essays on individual poisonous substances. In each essay a specific compound is described physically and chemically and physiological reactions to it are stated. Usually treatment is discussed briefly and one or more literature references are furnished. The author a physician, is associated with the National Institutes of Health of the U S. Public Health Service.

WAKSMAN, SELMAN ABRAHAM

The literature on streptomycin 1944–1952 New Brunswick New Jersey Rutgers University Press, 1952 553 p. 24 cm. $5 00. 1030

Contents: Actinomycetes. General references. Streptothricin. Streptomycin. Author index. Subject index.

Note. ("897) This second edition contains 3300 references to the literature of streptomycin as compared with 1171 in the 1948 edition. Uses of the antibiotic other than in the treatment of disease are now included, such as in animal feeding and in the preservation of semen and viruses. A more detailed and enlarged index has also been provided. As in the previous edition, the arrangement is chronological.

WAKSMAN, SELMAN ABRAHAM, editor

Streptomycin nature and practical applications Baltimore The Williams & Wilkins Co. 1949 618 p. illus. 24 cm. $10 00 1031

Contents: Section I, Microbiological and chemical aspects: Historical introduction, by S. A. Waksman. *Streptomyces griseus*, nature and nutrition, by S. A. Waksman. Strain selection and strain specificity of *Streptomyces griseus*, by G. M. Savage. Production and isolation of streptomycin, by M. Tishler The chemistry of streptomycin, by M G. Brink and K. Folkers. Microbiological and chemical methods of assay for streptomycin, by H. Welch. Section II, Antibacterial and pharmacologic properties of streptomycin: Action of streptomycin on microorganisms in vitro, by G. P Youmans and M. W Fisher. Antibacterial activity of streptomycin in vivo, by F R. Heilman and G. Rake. Streptomycin in experimental tuberculosis, by W H. Feldman and A. G. Karlson. Development of streptomycin-resistant and streptomycin-dependent bacteria, by C. P Miller and M. Bohnhoff. Streptomycin resistance of tubercle bacilli, by W Steenken, Jr., and E. Wolinsky. The mode of action of streptomycin, by R. J Henry and G. L. Hobby. Synergism between streptomycin, by antibacterial substances with special reference to streptomycin, by F S. Thatcher. Absorption, distribution and excretion of streptomycin, by G. Rake and R. Donovick. Pharmacology of streptomycin, by H. Molitor. Section III, Clinical uses of streptomycin: Clinical indications for streptomycin therapy, by C. S. Keefer. Methods of administration and dosage, by W E. Herrell. Streptomycin in the treatment of tuberculosis in man, by A. M. Walker and others. Streptomycin in the surgical treatment of pulmonary tuberculosis, by E. J O'Brien and W M. Tuttle. Clinical significance of bacillary resistance in the treatment of pulmonary tuberculosis with streptomycin, by N D'Esopo. Bacteremia, by E. J Pulaski. Meningitis: *H. influenzae* meningitis, by H. E. Alexander. Tularemia, by L. Foshay. Brucellosis, by W W Spink. Plague, by K. F Meyer and S. F Quan. *Friedländer's bacillus* (*Klebsiella pneumoniae*) infections. Whooping cough: their treatment with streptomycin, by H. M. Ruppin. Non-tuberculous infections of the bronchial tree, by A. M. Olsen. Lung abscess and empyema, by E. J Pulaski. Intestinal infections, by H. A. Reimann. Urinary tract infections, by W L. Herrell. Cholangiohepatitis and peritonitis, by I. S. Ravdin and H. A. Zintel. Prevention of wound infection, by E. L. Howes. Clinical wound infections, by E. J. Pulaski. Therapy of *Granuloma inguinale*, by R. B. Greenblatt. Chancroid and chancroid

by L. E. Putnam. Ear infections, by B. H. Senturia. Ophthalmology by J. G. Bellows. Skin infections, by E. D. DeLamater. Toxicity of streptomycin in the human, by P. A. Bunn and R. E. Westlake. Alterations in the normal bacterial flora of man and animals and secondary infections occurring during streptomycin treatment, by L. Weinstein. Section IV Miscellaneous uses of streptomycin: Use of streptomycin and other antibacterial agents for recovery or isolation of viruses, by C. A. Brandly and M. S. Winslow. Streptomycin in small animal medicine, by W. G. Venzke and C. R. Smith. Streptomycin in the treatment of certain infections of the bovine mammary gland, by O. W. Schalm. Streptomycin and penicillin-streptomycin for the control of bacteria in bovine semen, by J. O. Almquist. Use of streptomycin in agriculture, by P. A. Ark. Subject index.

Note: A collection of original papers designed as a comprehensive presentation of the status of the antibiotic streptomycin as of approximately the close of the year 1948. Short lists of references accompany each paper but the scientists in search of a comprehensive bibliography should consult *The literature on streptomycin, 1944–1948* described above.

YEAR BOOK OF DRUG THERAPY

The 1952 year book of drug therapy (August, 1951–August, 1952) Edited by Harry Beckman. Chicago The Year Book Publishers, 1952 606 p illus. 20 cm. $5.50 1032

Contents: Introduction Allergy Antibiotics and sulfonamides. Cardiovascular diseases. Dermatology Endocrinology Hematology Internal medicine. Neuropsychiatry Obstetrics and gynecology Ophthalmology Otorhinolaryngology Pediatrics. Surgery Venereology Author index. Subject index.

Note: An organized presentation of information which appeared in the periodical literature during the period noted in the book's title. The chapters consist of abstracts of periodical articles. The typical abstract is several hundred words in length and in many instances is supplemented by a brief editorial comment which adds to the information given in the abstract or critically evaluates the author's methods or conclusions. The book can be used as a survey of developments without reference to the original articles or as a guide to the published literature. There are full author and subject indexes.

PHYSICAL THERAPY

BIERMAN WILLIAM AND SIDNEY LICHT

Physical medicine in general practice. With twenty-two contributors. Third edition. New York Paul B Hoeber Inc. 1952 798 p illus. $12.50. 1033

Contents: Part I, Methods: Heat and cold, by C. S. Wise. Hydrotherapy by W Bierman. Climatotherapy and spa therapy by W S. McClellan. Visible and infrared radiation, by W D. Paul. Diathermy by F B. Moor and W Bierman. Surgical diathermy by W Bierman. Galvanic and low frequency current, by W Bierman and S. Licht. Ultraviolet radiation, by W Bierman. Ultrasound, by F Friedland. Massage, by W Bierman. Manipulation, by J. Bastow Functional muscle testing, by H. O. Kendall and F P Kendall Exercise, by T L. DeLorme. Occupational therapy by S. Licht. Medical rehabilitation, by S. Licht. Part II, Clinical applications: The conduct of treatments, by W B. Snow Diseases of the locomotor system, by W Bierman. Arthritis and rheumatic diseases, by W M Solomon. The lower extremity amputee, by S. Brunnstrom. Neurologic diseases, by S Mead Anterior poliomyelitis, by M. E. Knapp. Neuromuscular reeducation for paralysis, by H. Kabat. Cardiovascular diseases, by K. Harpuder. Diseases of the digestive system, by C. O. Molander. Genitourinary diseases, by V S. Dick. Gynecologic diseases, by W Bierman. Eye, ear nose, and throat diseases, by W Bierman. Respiratory diseases, by W Bierman. Dermatologic diseases, by S M. Peck and G. Klein. Index.

Note: (2173) A standard manual for general practitioners of medicine and beginners in the field of physical therapy In the first part methods which are currently considered to have therapeutic value are described explicitly In the second part the uses of physical therapy in various types of diseases are discussed Literature references are included in each chapter The preceding edition was published in 1944 and was written by Dr. Bierman. In preparing this edition the contributors named in the contents above have revised or completely rewritten the chapters now signed with their names. Without changing the purpose or level of the book, much obsolete material was eliminated and a wide range of new material added.

BUCHWALD, EDITH AND OTHERS

Physical rehabilitation for daily living, by Edith Buchwald in collaboration with Howard A. Rusk, George G Deaver and Donald A. Covalt. New York McGraw Hill Book Company Inc. 1952 183 p. illus. 29 cm. $7.50 1034

Contents. Functional training. Bed and mat exercises. Wheelchair exercises. Self-care. Ambulation. Elevations and travel on crutches. Special problems: Wheel chairs. Braces. A.D.L. testing. Equipment and furniture for A D.L. Index.

Note. Based upon the program developed at New York University-Bellevue Medical Center this manual is intended for physical therapists, physicians, and nurses who are concerned with teaching the skills necessary for physical independence to persons who have lost the proper use of their legs and must rely upon braces, crutches, wheel chairs. The volume outlines the step-by-step procedures for such activities of daily living ("A.D L.") as toilet activities, dressing activities, eating activities, getting from place to place, walking, climbing stairs, and use of the wheel chair. Nearly half of the pages of the book contain photographic illustrations showing the recommended steps and positions. While primarily intended for hospital programs of rehabilitation, the publication is written in non-technical language and should be valuable also to patients themselves and their families.

COZEN LEWIS

Office orthopedics. With 156 illustrations. Philadelphia Lea & Febiger 1950 232 p. illus. 24 cm. $5.00 1035

Contents Materials. Physical therapy Local anesthesia. Prosthesis fitting. The foot. The ankle and the calf. The knee. The thigh and the hip. The back. Coccygodynia. The neck. The shoulder. The elbow The hand. Childhood. Limp in a child Crooked back in a child. Child walks pigeon-toed. Bowlegs and knock knees. Clumsiness of hands in a child. Wry neck. Painful arm or leg in a child. Abnormal leg or arm in a child. Inability of a child to sit up. Painful arm or leg in an adult. Deformity of arm or of leg in an adult. Weakness of arm or of leg in an adult. Coldness and pain in an extremity Complaint of painful jaw Myositis. Fractures. Recent progress in office orthopedics. How to examine orthopedic cases for the law court. Index

Note. Orthopedics as practiced in offices of general practitioners and in clinics is the subject here. Surgical treatments and hospital procedures are not included. Instead, detailed information on simple therapeutic methods needed by the general practitioner are presented and illustrated. Tests, treatments, and medical devices are considered with detailed instructions as to time and place of use. A general bibliography precedes the text while more specific references are listed at the end of each chapter. The author is a member of the faculty of the College of Medical Evangelists, Los Angeles.

DUNTON WILLIAM RUSH JR. AND SIDNEY LICHT editors

Occupational therapy principles and practice. Springfield, Ill. Charles C Thomas, 1950 321 p. illus. 24 cm. $8 00 1036

Contents: History of occupational therapy by W R. Dunton, Jr. The principles of occupational therapy by S. Licht. The prescription, by W R. Dunton, Jr. Occupational therapy for psychiatric disorders, by W K. Burton. Kinetic occupational therapy by S. Licht. Occupational therapy for amputees, by P Lyttleton. Occupational capacity and therapy in heart disease, by P D White. Occupational therapy in tuberculosis, by A. L. Banyai. Occupational therapy in the treatment of cerebral palsy by R. W Bonynge and W M. Phelps. Education for hospitalized patients, by S. Licht. Bibliotherapy in neuropsychiatry by J. M. Schneck. Recreational therapy by J. E. Davis Dance therapy by A. P Solomon. Index.

Note: The purpose of this book is to provide medical practitioners rather than physical therapists with information about the scope and methods of occupational therapy The several chapters are by prominent physicians and other persons with professional associations in the field, and they were written especially for this book. References to related literature are included.

GOLDTHWAIT JOEL ERNEST AND OTHERS

Essentials of body mechanics in health and disease. By Joel E. Goldthwait, Lloyd T

Brown Loring T Swaim, John G Kuhns. 135 illustrations. Fifth edition. Philadelphia J B Lippincott Company 1952 356 p. illus 20 cm. $6 00 1037

Contents: The problem of chronic illness. Body types. Body mechanics. Developmental deformities. Backache and other spinal sprains. The circulatory system. Diseases of the abdominal viscera. Diseases of the nervous system. Chronic arthritis. Treatment. The feet and body mechanics. Public health aspects of body mechanics. Geriatrics and body mechanics. Index.

Note. A practical discussion of the relationship between body structure and chronic illness. The book is written for the general practitioner and stresses the need for therapeutic measures which will correct faulty body mechanics and the resultant diseases. Case studies, photographs of patients before and after treatment, and chapter bibliographies are included.

KENDALL HENRY O , AND OTHERS

Posture and pain By Henry O Kendall, Florence P Kendall and Dorothy A. Boynton Baltimore The Williams & Wilkins Company 1952 204 p illus. 29 cm. $7 00 1038

Contents: Part I, Alignment The standard posture. Postural faults. Part II, Mobility Joint and muscle analyses and relation to posture. Tests for muscle length. Tests for muscle strength. Procedure for postural examination. Part III, Treatment Pain associated with faulty body mechanics. Painful conditions of the low back, leg, knee, foot. Painful conditions of the upper back, neck, arm. Part IV Prevention of postural faults Developmental factors and environmental influences affecting posture. Index.

Note. The title of this work is somewhat misleading for postural faults not associated with pain are considered as well as those that are painful. The authors are all associated with the Physical Therapy Department of the Children's Hospital School in Baltimore, and the book is based on approximately 12,000 cases on file in that department. Nevertheless, it is not a highly technical treatment for specialists. Instead, the analyses, treatment, and prevention of postural faults are discussed simply and practically. There are 159 illustrations, some of which contain several illustrations. The book is of interest not only to physical therapists but also to general practitioners of medicine and to teachers and others interested in the promotion of good posture.

KESSLER HENRY HOWARD

The principles and practices of rehabilitation. By Henry H. Kessler in collaboration with other authors With 132 illustrations and a colored plate. Philadelphia Lea & Febiger 1950 448 p illus (part col d) 24 cm. $9 00 1039

Contents: Part I, Principles General considerations, by H. H. Kessler Physical restoration, by H H Kessler Rehabilitation with plastic surgery by J B Brown and M P Fryer Rehabilitation with plastic surgical prosthetic restorations, by A. M Brown. Physical therapy in rehabilitation by R. Kovács Physical conditioning, by D A Covalt The principles of occupational therapy in the rehabilitation of the physically handicapped, by W L. West. Physical rehabilitation of the industrial injured, by H D Storms. A rehabilitation center by B Grove Disability evaluation, by F A. Hellebrandt. Guidance, training, and placement, by M. E. Odoroff. Placement, by B. Hansen. Part II, Practices Rehabilitation of the amputee, by H H Kessler Psychiatric disabilities including epilepsy and mental deficiency by V H Vogel. The rehabilitation of cerebral palsy by W M. Phelps. Physical rehabilitation of neurological disabilities, by A. B. C Knudson. Rehabilitation in poliomyelitis, by R. L. Bennett. Rehabilitation of the patient with heart disease, by M. C. Becker Rehabilitation and the tuberculous, by H. Hudson. Rehabilitation of the blind, by E C McKay Hearing rehabilitation, by R. R. Macrae and F L. Lederer Index.

Note. A practical, inclusive manual. It is addressed primarily to graduate nurses and medical practitioners who are entering rehabilitation work from other specialties or who need fundamental and practical information about it because they occasionally have rehabilitation cases. The typical chapter is a compact outline of specific rehabilitory techniques, supplemented by selected literature references which serve to guide the non-specialist to books and papers where fuller discussions of particular techniques are available.

KOVÁCS, RICHARD

Electrotherapy and light therapy, with essentials of hydrotherapy and mechanotherapy Sixth edition thoroughly revised with 368 illustrations and a color plate. Philadelphia Lea & Febiger 1950 739 p. illus. (part col d) 24 cm. $10.00 1040

Contents (abridged) Part I, Electrophysics. Part II, General electrotherapy and electrodiagnosis: Electromedical currents, apparatus and accessories. Electrophysiology Electrodiagnosis. The galvanic current and ion transfer. Medical diathermy Hyperthermy. Electrosurgery Electrical injuries. Part III, Light therapy: Physics of radiant energy Infrared and luminous radiation. Ultraviolet radiation—physics and effects. Heliotherapy Part IV Essentials of hydrotherapy and mechanotherapy: Hydrotherapy Hypotherapy Massage. Exercise. Part V Applied physical therapy: Cardiovascular conditions. Chronic arthritis and fibrositis. Affections of the central nervous system. Affections of bones, joints, muscles and tendons. Gynecological and genito-urinary conditions. Proctological conditions, by R. V Gooch. Dermatological conditions. Diseases of the ear, nose and throat, by W Morrison. Physical therapy in office practice. Physical therapy in institutional practice. Physical medicine and rehabilitation in general practice, by A. B. C. Knudson. Appendix. Glossary Author's index. Subject index.

Note (905*) A standard reference manual of physical medicine. Although there is some emphasis on electrotherapy and light therapy as indicated by the phrasing of the title, all of the physical therapies are included. The material is presented from the viewpoint of graduate physicians and physical therapists. Techniques are described explicitly first in general, then in relation to particular diseases. Selected literature references are included. The fifth edition was published in 1945. In this edition there is one new chapter and many sections of those carried over have been revised or augmented. Seventy-five of the illustrations are new

KOVÁCS RICHARD

Light therapy Springfield, Illinois Charles C Thomas, 1950. 112 p illus. 22 cm. (American lecture series Publication no 57 A monograph in American lectures in physical medicine, edited by W A. Selle) $2.25 1041

Contents The history of light therapy Physics of radiant energy Infrared and luminous radiation. Ultraviolet radiation. Bibliography. Index.

Note. A brief survey of the current techniques in the therapeutic use of light and of infrared and ultra violet radiation. Literature published as late as 1947 appears in the bibliography hence there is some information in the book which is not to be found in older books on the subject. Essentially however it is a book to be read by graduate physicians who are not specialists in physical medicine but desire to know something about the status of light therapy. The techniques discussed are those used in hospitals, doctors' offices, etc.; in fact a warning against home use of "sunlamps" without the supervision of a physician is included in the book.

KRAUS HANS

Principles and practice of therapeutic exercises. Illustrations by Richard Kroth. Springfield, Illinois Charles C Thomas, 1949 309 p. illus 24 cm. $7.50 1042

Contents. Part I, Fundamental working principles: Clinical pathophysiology of muscle exercises. Measurements. Exercise techniques. Treatment of pain and painful muscle spasm. The exercise prescription. Supporting prescriptions. Part II, The application of therapeutic exercises to particular fields: Musculo-skeletal conditions. The nervous system. Respiration Part III, General exercises. General exercises. Bibliography Index

Note Relatively little space in this book is given to the detailed description of exercises. Instead, the author deals with the basic physiology and with the general principles of therapeutic exercises. Although intended for beginners, the treatment is more mature and is more directly related to medical practice than are some books on therapeutic exercises A typical passage reads chronic tightness and pain in neck muscles may have an occupational and postural background or may be chronic phases of acute trauma. The supportive prescription with regard to occupation, eyesight, posture, etc., is therefore vitally important. The author is a member of the faculty of the New York University College of Medicine.

KRUSEN FRANK HAMMOND, editor
Physical medicine and rehabilitation for the clinician. Philadelphia W B Saunders Company, 1951 371 p. illus. 25 cm. $6.50 1043

Contents: The scope of physical medicine and rehabilitation, by F H. Krusen. I, Therapeutic application of physical agents and procedures: Prescription writing in physical medicine, by G. M. Martin. Therapeutic uses of heat, by G. M. Martin. Therapeutic uses of massage, by D. J Erickson. Basic principles used in therapeutic exercise, by E. C. Elkins. Factors involved in posture, by E. C. Elkins. Training the patient to rest and relax, by F H. Krusen. Ultraviolet radiation in medicine, by G. M. Martin. Experimental studies in microwave diathermy by J F Herrick. Ultrasonics and medicine, by J. F Herrick. Occupational therapy for the medical patient, by G. Patton. Occupational therapy for rheumatic diseases, by G. Patton. II, Diagnostic applications of physical agents and procedures: Electrodiagnostic methods—evaluation and interpretation, by D. L. Rose. Simple muscle testing procedures in the clinical evaluation of pain, by D. L. Rose. Skin resistance testing in neurologic diagnosis, by J. R. Gay Studies of the circulation as evidenced by measurements of the temperatures of the skin in health and disease, by G. M. Roth and C. Sheard. III, Clinical aspects of physical medicine and rehabilitation: Physical medicine and rehabilitation in a general hospital, by H. A. Rusk. The function of the medical social worker in rehabilitation planning, by L. Schoenemann. Physical medicine in neurology by A. L. Watkins. The clinician approaches the problem of backache, by H. F Polley Rheumatoid spondylitis—clinical features and methods of treatment, by H. F Polley Physical treatment of arthritis, by H. F Polley Psychosomatic problems with neuromuscular and joint manifestations, by H. P. Rome. The stiff and painful shoulder by R. K. Ghormley. Breathing exercises for asthmatics, by D. J. Erickson. Physical treatment of the hemiplegic patient in general practice, by H. Deaton. Painful feet—evaluation and management of painful metatarsals, by F J. Kottke. The treatment of poliomyelitis, by M. E. Knapp. Physical medicine in treatment and rehabilitation of patients having tuberculosis and other pathologic lesions of the chest, by H. Deaton. Management of the family of the patient having cerebral palsy by G. R. Logan. Evaluation and management of the patient having cerebral palsy by G. M. Martin. Physical rehabilitation of the paraplegic, by E. C. Elkins. Experimental studies on fasciitis and fibrositis, by H. E. Dunn and F H. Krusen. IV Fundamentals of anatomy therapeutic exercise and physiology as related to physical medicine and rehabilitation: Functional anatomy of the upper limb, by W H. Hollinshead. Functional anatomy of the lower limb, by W H. Hollinshead. Functional anatomy of the back, by W H. Hollinshead. The skeletal musculature in health and disease, by K. G. Wakim. *Fundamentals of therapeutic exercise*, by F H. Krusen. The physiological effects of bed rest and immobilization, by H. L. Taylor. Index.

Note: The editor of this work is head of the section on Physical Medicine and Rehabilitation of the Mayo Clinic, and most of the contributors are members of the Mayo Clinic staff. A typical chapter is about nine pages in length and is accompanied by list of references. The book is addressed to medical men who are not specialists in physical medicine.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS INC
A manual of cerebral palsy equipment. Chicago The National Society for Crippled Children and Adults, Inc. 1950 illus. 30 cm. Looseleaf flexible binder $5.00 1044

Note: In this work wide variety of furniture and other equipment useful in the care and training of persons affected with cerebral palsy is described. Each piece of equipment is described separately—usually on single sheet. The descriptions usually include an illustration and specific data on dimensions and materials. Both standardized equipment and equipment that must be custom-made are included. Besides the descriptions of equipment, the book includes list of commercial firms manufacturing such equipment in the United States of America and bibliography

POHL JOHN FLORIAN
Cerebral palsy Saint Paul, Minnesota Bruce Publishing Company 1950 224 p. illus. 21 cm. $5.00 1045

Contents: The medical problem. Plan of treatment—general principles. Education. Introduction to neuromuscular training. Neuromuscular training: anterior neck and trunk. Neuromuscular training: posterior neck and trunk. Neuromuscular training: upper extremity Neuromuscular training: lower extremity Developmental patterns. Walking. Occupational therapy Speech. Index.

Note: Essentially this book is manual of the therapy and training of children affected with cerebral palsy It is addressed both to medical practitioners and to nonmedical therapists he are concerned with the treatment of such children. There are 130 illustrations but no literature references. The author is Orthopedic Surgeon for the Michael Dowling School for Crippled Children in Minneapolis.

SHRINER, MILDRED
Foundations for walking a practical guide for therapists, teachers and parents of cerebral palsied children. Chicago Illinois The National Society for Crippled Children and Adults, Inc., 1951 93 p. illus. 23 cm. Paper $1 00. 1046

Contents: Locomotion goals. The child needs the proper chair for sitting. The child needs other equipment to aid sitting balance. The child sits and gets around on wheels. The child is lifted and carried. The child stands. The child walks. The author. Bibliography

Note: An authoritative booklet of practical up-to-date techniques in the teaching of walking to children affected with cerebral palsy Most of the illustrations show special apparatus such as chairs, skate shoes, crawlers, specially adapted tricycles, parallel bars, and practice stairs. There is bibliography of 18 references.

WEPMAN JOSEPH M
Recovery from aphasia. With a foreword by Wendell Johnson. New York The Ronald Press Company 1951. 276 p illus. 24 cm. $5.50. 1047

Contents (abridged) Part I, Nature of aphasia: Introduction to aphasia therapy Etiology of aphasia. Nonlanguage characteristics of aphasics. Classification and nomenclature of aphasia symptoms. Part II, Research findings during World War II. Part III, Aphasia therapy and therapists Theory and working principles. The professional aphasia therapist. Associated therapies and therapists. Direct therapy in receptive aphasia. Direct therapy in expressive aphasia. Bibliography *Index of names. Index of subjects.*

Note: Currently in the United States of America the aphasia therapist may be person who has background in teaching, speech pathology psychotherapy or some other fields. Medical practitioners and nurses also play active parts in the treatment of aphasics. This book is survey of the field for persons he are engaged in aphasia therapy or he are interested in entering the profession. The author has assumed some acquaintance with the fundamentals of education and psychology but not necessarily any previous acquaintance with aphasia. The aspects of the subject which are of interest to practical therapists are discussed fully and in clear explicit style. There is due emphasis on the necessity of viewing the aphasic patient as person with family and other social relationships such as important factors in his recovery The author is member of the faculty of the Medical School of the University of Chicago.

YEAR BOOK OF PHYSICAL MEDICINE AND REHABILITATION
The 1951 year book *of* physical medicine *and* rehabilitation (December 1950–January 1952) Edited by Frank H. Krusen. Associate editors Earl C Elkins and George G. Deaver Chicago The Year Book Publishers, Inc. 1952 382 p. illus. 20 cm. $5.50 1048

Contents. Introduction. Spina bifida, by G G. Deaver and others. General aspects. Physiologic and anatomic considerations. Diagnostic applications Electromyography Devices and mechanical procedures. Exercise. Artificial respiration. Heat and cold therapy Hydrotherapy Medical electricity Short wave and microwave diathermy Ultrasonics in medicine. Poliomyelitis. Cerebral palsy Amputees. Orthopedic conditions. General medical conditions. Neurologic and psychiatric conditions. Obstetrics. Urology Geriatric conditions. Teaching. Index. Index to authors.

Note: (910*) An annual publication organized on the plan of the other books in this useful series. In it selections from the world's medical literature are summarized and classified. Each chapter is

made up of a number of abstracts of substantial length. Frequently the abstract is accompanied by a short supplementary note written by the editor. A reference to the original article is given in all cases. In the issue at hand there are 160 figures. Also in this issue is a special article on *spina bifida* as indicated in the table of contents. This article is not an abstract but is a full-length discussion of treatment and rehabilitation of children afflicted with this condition.

NUTRITIONAL THERAPY

GOODHART, ROBERT S editor

Nutrition in the practice of medicine with comments on nutrition, disease and geography Proceedings of the Nutrition Symposium held at the University of California, School of Medicine, San Francisco October 30 1951 Edited by Robert S Goodhart. New York The National Vitamin Foundation, Incorporated, 1952 163 p illus. 23 cm. (Nutrition symposium series. No. 4) $1 50 1049

Contents: Some factors related to intestinal absorption, by P. J. Culver. Nutritional aspects of liver disease in man, by R. M. Kark. Influence of pancreatic insufficiency on nutrition, by H. Necheles. Nutritional and metabolic disturbances in ulcerative colitis, by J. A. Bargen. Some aspects of nutrition in relation to tissue devitalization and maintenance, by F. J. Stare. Some features of tissue changes induced by nutritional deficiencies, by P. R. Cannon. Some international economic aspects of nutrition, by J. B. Condliffe.

Note. Each of the papers in this book is original and is written at the research level. In most instances the results of recent investigations and observations are described, and in some of the papers particular stress is laid on problems still waiting solution. A transcript of the discussion which followed the presentation of each paper is included and literature references are supplied.

JOLLIFFE, NORMAN AND OTHERS, editors

Clinical nutrition Edited by Norman Jolliffe, F F Tisdall and Paul R. Cannon for the Food and Nutrition Board of the National Research Council. With 78 tables and 127 illustrations, 61 in full color New York Paul B Hoeber Inc. 1950 925 p illus. (part col d) 24 cm. $12.00 1050

Contents: Part I, Diagnosis of nutritional deficiency The pathogenesis of deficiency disease, by N Jolliffe. The dietary and medical history by N Jolliffe. The clinical signs, by N Jolliffe and others. Biochemical methods, by O A Goldsmith. Radiologic examination of the digestive tract, by R. Golden. Critique of laboratory aids in the diagnosis of malnutrition, by H. Pollack. Part II, The nutrient elements Protein malnutrition by R. Elman and P R Cannon. Carbohydrate malnutrition, by S Soskin and R. Levine. Caloric deficiency and starvation, by A. Keys. Calcium and phosphorus malnutrition, by I Snapper. Iron malnutrition, by R. F Farquharson. Sodium, potassium, and chloride malnutrition, including water balance and shock, by J A. Dumphrson. Iodine malnutrition, by G. M. Curtis and M. B. Fertman. The essential trace elements, by C. V Moore and others. Vitamin A malnutrition, by S. W Clausen. Vitamin D malnutrition and rickets, by E A Park. Vitamin K malnutrition, by E. D Warner. Thiamine malnutrition, by R. D Williams and R. M. Wilder. Riboflavin malnutrition, by G. A. Goldsmith. Niacinamide malnutrition and pellagra, by T D Spies. The pteroylglutamates in nutrition, by W J Darby and E Jones. Choline malnutrition, by C. H. Best and C. C. Lucas. Vitamin C malnutrition and scurvy by F F Tisdall and N Jolliffe. Pyridoxine, pantothenic acid, biotin, inositol, and vitamin E, by E. S Gordon. Part III, Therapy and prevention Principles of nutrition therapy by N. Jolliffe. Diet therapy by M. G Wohl. Dietotherapy by M. G. Wohl and N G. Schneeberg. Obesity, by L. H. Newburgh. The relation of nutrition to health, by F F Tisdall. Nutrition in public health practice, by W H. Sebrell, Jr and H. R. Sandstead. Food and nutrition problems associated with industrial work, by R. S. Goodhart and M E Shils. Appendix. Index.

Note. An important work planned and written as a means of disseminating to graduate physicians the current scientific information on human nutritional requirements, the clinical signs of deficiencies, the diagnosis and differential diagnosis of deficiencies, and methods of treatment. Extensive bibliographies are included.

MCLESTER, JAMES SOMERVILLE, AND WILLIAM J DARBY

Nutrition and diet in health and disease. Sixth edition. Philadelphia W B Saunders Company 1952 710 p. 24 cm. $10 00. 1051

Contents (abridged) Part I, Nutrition in health: Utilization of food. The vitamins. Inorganic nutrients. Milk and milk products. Meat, fish and eggs. Other foods. Feeding of infants. Nutrition in pregnancy and lactation. Part II, Nutrition in disease: Deficiency diseases. Diabetes mellitus. Gout. Obesity and leanness. Diseases of the kidney and urinary tract. Diseases of the digestive organs. Febrile diseases. Diseases of the heart and arteries. Diseases of the joints. Diseases of the nervous system. Endocrine disorders. Diseases of the skin. Nutrition in surgery Special methods of feeding. References. Supplementary tables. Composition of foods. Index.

Note: (1208) A technical survey of the available information on nutrition both in health and in disease. Although it contains much information which is valuable to physicians, nurses, and public health workers it is addressed not only to such readers but is intended also for nutritionists, teachers of home economics, etc. It is based on the literature and both the text and the tables are referenced to the bibliographies. The first edition was published in 1927 and the fifth edition in 1949. The sixth edition is the first one to bear the name of a collaborator on the title page. In comparison with the preceding edition it is very extensively revised with newly added information in practically every chapter. There are now 145 tables, some of which are statements of recommended menus for patients for use in the treatment of specific diseases. The bibliographies are not comprehensive but include the classical references and the more useful modern studies.

MAYO CLINIC COMMITTEE ON DIETETICS

Mayo Clinic diet manual. Philadelphia W B Saunders Company 1949 334 p. illus. 24 cm. $4.50. 1052

Contents (abridged) Standard hospital diets. Standard tube feedings. Dietary programs following operations in general. For gastric and duodenal ulcer For obstructing gastric and duodenal lesions. For use following gastric surgery For diseases of the gallbladder. For diseases of the liver For use before and after operations on the lower part of the intestinal tract. For use after operations on the colon or vaginal hysterectomy For irritable bowel with constipation. For chronic ulcerative colitis. For sprue. For allergy For urinary calculi. For cardiorenal vascular disease. For diabetes. For gout. For hypercalcemia. For hyperlipidemia. For iron deficiency anemia. For obesity For pregnancy For simple underweight. For underweight due to anorexia. For infants. For children. For children who have celiac disease. For children who have epilepsy For children who have chronic renal disease. Low calcium test diet (quantitative) High potassium, low sodium chloride test diet. High purine test diet. Test diet for steatorrhea and for nitrogen excretion. Appendix. Recommended dietary allowances, revised 1945 (amounts per day) Vitamin supplements. Excess of acidity or alkalinity in foods. Foods high in calcium. Foods high in cholesterol. Foods high in iron. Foods high in oxalic acid. Foods high in sodium. Classification of foods according to carbohydrate content. Average composition of 100 gm of various foods. Recipes for certain foods in alphabetical list of approximate composition of food. Standard diabetic diets for children. Standard diabetic diets for adults. Food nomogram. Index.

Note: A reference manual of specific information and detailed descriptions of specified diets developed and used at the Mayo Clinic and associated institutions. It is designed for persons with training in medicine or dietetics rather than for patients and the general public.

POLLACK HERBERT AND SEYMOUR LIONEL HALPERN

Therapeutic nutrition Prepared with collaboration of the Committee on Therapeutic Nutrition, Food and Nutrition Board. Committee on Therapeutic Nutrition, Russell M. Wilder chairman. Washington D C. National Academy of Sciences—National Research Council, 1952 94 p. 25 cm. (National Academy of Sciences—National Research Council. Publication 234) 1053

Contents (abridged) Functions of components of the diet in metabolism. Non-dietary factors affecting metabolism. The endocrine glands and metabolism. Evaluation of nutritional status. Consequences of nutritional deficiency. The relation of protein disequilibrium to disease. Nutritional requirements of the sick, injured, and convalescent. Therapeutic nutrition for specified conditions. The treatment of starvation and severe undernutrition. Problems of nutrition under emergency disaster situations. References.

Note: A presentation of what is currently known about the part played by proper nutrition in hastening the recovery of sick, wounded, and convalescent patients. The material is based on survey of the literature of the subject. The discussions of the relationship of nutrition and disease and the outlined therapeutic measures designed to meet specific needs represent the consensus of opinion of experts in the field. Emphasis "is placed primarily on recovery from acute catabolic episodes that produce drastic metabolic derangement of normal physiological processes. Prolonged partial or chronic malnutrition of population groups is not primary consideration in this report. The subjects of interest are generally *in the class of hospitalized patients. The bibliography of 783 references* is keyed to the textual material.

RICE, THURMAN BROOKS

Low-sodium diet a manual for the patient. *Philadelphia Lea & Febiger 1951* 103 p. 24 cm. $2 75 1054

Contents: The forms of sodium found in food. Why sodium may be injurious. Where and how does one get low sodium food? "Eating out. Originality and ingenuity in the low-sodium diet. The psychology of dieting. Errors and penances. Body weight in relation to the low-sodium diet. The use of sodium compounds in the processing of foods. Suggestions for the preparation of low-sodium menus. Food lists rated by content of native sodium. Typical food charts for study and consideration. Water supplies in relation to sodium content. Appendix. Index.

Note A graduate physician who is on low-sodium diet himself wrote this practical guide for those who must also follow such diet and for those who prepare meals for them.

RADIOLOGY

BEARD DONALD E., AND OTHERS

Radiologic diagnosis of the lower urinary tract. By Donald E. Beard, William E. Goodyear and H. Stephen Weens Springfield, Illinois Charles C. Thomas, 1952 143 p. Illus. 24 cm. $6.50 1055

Contents Introduction. The normal urethrogram. Diseases of the anterior urethra. The membranous urethra. The posterior urethra. The bladder. Urethrography and cystography in children. References. Index.

Note: A practical introduction to urethrography and cystography *as diagnostic techniques in studying disorders of the lower urinary* tract. The authors present simplified technique for urethrography based on the use of contrast medium consisting of 17 per cent sodium iodide in peanut oil. Essentially the book is an atlas of approximately 300 pictures, most of which are reproductions of roentgenograms. The pictures are accompanied by descriptive captions and brief, clearly written text.

BUSCHKE, FRANZ AND OTHERS

Supervoltage roentgentherapy By Franz Buschke, Simeon T Cantril, and Herbert M. Parker Springfield Illinois Charles C Thomas, 1950 297 p. illus. 24 cm. $10.50 1056

Contents: Physical considerations of supervoltage roentgentherapy at the Tumor Institute. Carcinoma of the oral cavity. Malignant tumors of the pharynx. Carcinoma of the esophagus. Carcinoma of the maxillary sinus. Carcinoma of the larynx. Carcinoma of the bladder. Carcinoma of the breast. Carcinoma of the cervix uteri. Pituitary adenoma. Conclusions. Index.

Note: In this book three members of the Tumor Institute of the Swedish Hospital in Seattle, Washington summarize the experience with this hospital's high voltage X-ray apparatus, which was installed in 1932 and has been in use since that year. The installation which operates at about 800 K. V is described in the first chapter The remainder of the book is made up chiefly of detailed discussions of case histories. Although the authors avoid "hard and fast conclusions they have found some advantages in the use of X-ray voltages above 300 K. V. The book contains 180 illustrations, some of which are colored. Bibliographies are included with the chapters.

CAFFEY, JOHN

Pediatric X-ray diagnosis a textbook for students and practitioners of pediatrics, surgery & radiology Second edition. Chicago The Year Book Publishers, Inc. *1952 862* p. Illus. 27 cm. $22 50. 1057

Contents (abridged) Section I, The head and neck: The skull. Individual cranial structures. Intracranial structures. Intracranial pneumography The neck. Section II, The thorax: The thoracic walls. The respiratory tract. Pathologic intrathoracic changes. Primary pulmonary tuberculosis. The mediastinum. The heart. Section III, The abdomen & gastro intestinal tract Diseases of the abdominal walls. The liver. The biliary tract. The spleen. The pancreas. Mesentery and omentum. The digestive tract. Section IV The pelvis and genito-urinary tract: The pelvis. The urinary tract. The adrenal glands. The reproductive system. Section The extremities: The *soft tissues. The bones. The joints. Section VI, The vertebral column:* Congenital disturbances. Traumatic lesions. Diseases involving vertebral column. Index.

Note. (919*) A comprehensive treatment based on many years of collective experience at the Baby's Hospital, New York. Information and illustrations from the periodical literature have been incorporated also. Under each of the anatomical regions named in the chapter titles, *conditions which are of interest in roentgenology are* discussed. Generally speaking, there is brief description of the specific disease or abnormality and this is followed by longer discussion of the anatomy and pathology in relation to roentgen diagnosis. Normal roentgen appearances are described and illustrated for purposes of comparison. The first edition was published in 1945. In spite of the short interval between the two editions, the second edition contains *fair amount of new text and 734 new illustrations.* A selection of recent literature has been added to the reference lists printed in numerous places throughout the book.

DE LORIMIER, ALFRED ALEXANDRE

The arthropathies, a handbook of roentgen diagnosis. Second edition. Chicago The Year Book Publishers, Inc. 1949 335 p. Illus. 21 cm. $7.00. 1058

Contents: Part I, The peripheral joints: Developmental malformations. Osteochondritis. Group in which changes are essentially concerned with mechanical stresses. Group essentially concerned with protein reactions, toxins or actual bacterial invasion of the joint—the true arthritides. Part II, The joints of the spine. Developmental malformations. Spondylolisthesis. Osteochondritis. Group in which changes are essentially concerned with mechanical stresses. Group essentially concerned with protein reactions, toxins or actual bacterial invasion of the joint. Ochronosis. Neoplasms. Spinal arthralgias—miscellaneous causes. Part III, The temporomandibular joints. Arthropathies. Selected references. Index.

Note: A thorough work on the use of X-ray in diagnosis of diseases of the joints. In this edition there are 57 plates and the majority of them contain reproductions of two or more roentgenograms. The plates are accompanied by descriptions of the abnormalities and disease manifestations which can be seen in them. The chapters on diseases are preceded by an introduction in which the techniques of producing high quality roentgenograms of the joints and surrounding tissues are described. The first edition was published in 1943. Both the text and the illustrations have been extensively revised and augmented.

ECKER ARTHUR

The normal cerebral angiogram. Springfield, Ill. Charles C Thomas, 1951. 190 p Illus. 24 cm. $7.25 1059

Contents Part I, Technic. General technical considerations. Specific technic. Complications. Part II, Angiographic anatomy. Arteriographic anatomy. Venographic anatomy. Artefacts. Vascular relations to the tentorial notch and foramen magnum. References. Index.

Note: A short but valuable monograph on the radiography of the blood vessels of the brain. In the first part specific and detailed descriptions of techniques are supplied. The second part is built around series of remarkable X-ray photographs of blood vessels in

the brain. The purpose of the work is to describe the normal (and "normal variations") anatomy of the major blood vessels of the brain as these are seen in angiograms and to describe the technique of angiography for the guidance of neurologists and neuroradiologists.

FERGUSON, ALBERT BARNETT

Roentgen diagnosis of the extremities and spine. Second edition, revised and enlarged. With six hundred and twenty-five roentgen ray studies and eight line cuts. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1949 519 p. illus. 27 cm. (Annals of roentgenology, a series of monographic atlases. Vol. seventeen) $16 00 1060

Contents: Introduction. Calcareous matter Reticular bone. Diaphyseal fractures and infections. Diaphyseal malignancy Metaphyseal bone. Inherent disturbances of bone formation. Cartilage lines, fracture lines and anomalies. Fractures. Healing of fractures. Epiphyses and small bone masses. Non-osseous tissues. Arthritides. Tuberculous arthritis. Non-tuberculous infectious arthritis. Specific tumors. Primary bone malignancy The spine. Index of case histories. General index.

Note. (2191) A standard work in which the author correlates roentgenographic and clinical findings and discusses particular roentgenograms from the viewpoint of the evidences of pathologic change. The discussions are clinical and diagnostic rather than anatomic. The book is intended as a practical guide to the use of X-ray in diagnosing bone diseases and is of interest not only to roentgenologists but also to orthopedic and general surgeons. This edition contains the text and illustrations of the original edition plus two added chapters and 71 new illustrations. The new chapters are those entitled "Specific tumors" and "Primary bone malignancy

GLASSER, OTTO, AND OTHERS

Physical foundations of radiology By Otto Glaser Edith H. Quimby Lauriston S Taylor and J L. Weatherwax. Second edition, revised and enlarged. New York Paul B Hoeber Inc. 1952 581 p. illus. 20 cm. $6.50 1061

Contents Preface to second edition. Preface to first edition. Milestones in radiology Fundamental concepts of matter Fundamental concepts of radiation. Interaction of radiation and matter. Fundamental concepts of electricity and magnetism; basic electric instruments. Production and nature of Roentgen rays. Roentgen-ray tubes. Roentgen-ray circuits Supervoltage generators, high energy accelerators; nuclear reactors. Physical principles of Roentgen-ray diagnostic procedures. Measurement of Roentgen-ray quantity Measurement of Roentgen-ray quality Tissue dosage in Roentgen-ray therapy Radioactivity Measurement of gamma-ray quantity Dosage calculation in radium therapy Measurement of radiations from radioactive isotopes. Dosage considerations in the use of radioactive isotopes administered internally Dependence of the biologic reaction on quality and time factors. Protection in radiology Appendix: Roentgen ray depth dose tables. Index of names Index of subjects.

Note (2191a) A concise and practical discussion of the physical principles underlying the production, properties, and utilization of X-rays. The treatment is elementary and non-mathematical, and the book is intended to serve as a text for medical students and a guide for practicing physicians. The first edition appeared in 1944 and has been widely used. It was extensively revised for this edition. New developments relating to X-ray quantity and quality and diagnostic procedures were incorporated and two chapters on radioactive isotopes and high energy accelerators were added.

GRUBBÉ EMIL HERMAN

X ray treatment its origin birth and early history Saint Paul The Bruce Publishing Company 1949 153 p illus. 24 cm. $3.00. 1062

Contents (abridged) Vacuum tube research preceding Roentgen's work. The actual discovery of X-rays by Roentgen. The author's work before Roentgen's discovery The author's work following Roentgen's discovery The first X-ray burn. The origin of X-ray therapy The effects of X-rays on the author' body The early history of X-ray therapy *Number of diseases amenable to X ray treatment.* X-ray apparatus and devices designed by the author. The early pioneers of the X-ray X-ray therapy tomorrow. The author's bibliography The author's biography

Note: This book is a short personal account of the author's pioneer work in the use of X-rays as a therapeutic agent. He was the first to test the use of X-rays in the treatment of disease and was also the first professor of roentgenology in any medical college. The book is not a systematic history but is an autobiographical document of interest to students of this phase of the history of medicine.

HAHN, PAUL F , editor

A manual of artificial radioisotope therapy New York Academic Press, Inc. 1951 310 p. illus. 23 cm. $6.80 1063

Contents: Introduction to radiation therapeutic problems, by A. H. Dowdy Terminology and standards, by R. D. Evans. Criteria for the use of therapeutic isotopes, by P F Hahn. Dosimetry of internally administered radioactive isotopes, by E. H. Quimby Radiophosphorus in the treatment of polycythemia vera and the leukemias, by C. F Stroebel and B. E. Hall. Radioactive iodine in the diagnosis and treatment of hyperthyroidism, by J. B. Hamilton and J. W Kerr. Radioactive iodine in the study and treatment of carcinoma of the thyroid, by R. W Rawson and J. B. Trunnell. Radioactive colloids in the treatment of lymphoid-macrophage diseases, by P F Hahn. Tumor therapy by direct infiltration of radioactive colloidal metallic gold, by P F Hahn. Radiological instrumentation in a therapeutic program employing artificial radioactive isotopes, by R. L. Weiland. Health physics, by K. Z. Morgan. Autoradiography as a tool in medical research, by C. P Leblond and J. Gross. Availability of isotopes and means of procurement, by P C. Aebersold. Planning the radioisotope program in the hospital, by E. H. Quimby and C. B. Braestrup. Author index. Subject index.

Note: A book made up of short monographic chapters written by eminent American scientists and physicians who are active in the production of radioactive isotopes or in their therapeutic applications. As the chapter titles show, therapeutic rather than physical aspects are emphasized. The book is designed for biologists, radiologists, and physicians and it serves both as a manual of tested therapeutic techniques and a guide to the pertinent literature. The editor is associated with the Cancer Research Laboratories of Meharry Medical College, and the contributors are mostly members of the faculties of outstanding medical schools.

KAPLAN IRA I.

Clinical radiation therapy With 614 illustrations. Second edition. New York Paul B Hoeber Inc. 1949 844 p. illus. 24 cm. $15 00 1064

Contents. Historical development of radiation therapy Radiation physics. Principles of radiation therapy General considerations in the use of radiation therapy Radiation in skin conditions. Radiation in ear, nose, and throat conditions. Radiation in eye conditions. Radiation in chest conditions. Radiation in inflammatory conditions. Radiation in breast conditions. Radiation in gastrointestinal conditions Radiation in gynecologic conditions. Radiation in genitourinary conditions. Radiation in neurologic conditions. Radiation in bone conditions. Radiation in soft tissue sarcomas. Radiation in blood dyscrasias. Radiation of specific diseases of the lymph nodes. Radiation of specific diseases of the reticuloendothelial system. Radiation in endocrinology Complications and injuries associated with X-ray and radium therapy Trauma and cancer The legal aspects of radiation therapy Index.

Note The author of this work is Clinical Professor of Radiology in New York University Medical College and Director of the Radiation Department of Bellevue Hospital in New York City The book is based on an extensive experience and a large file of case histories. A wide range of diagnostic and therapeutic techniques is included and each is extensively described. The illustrations include reproductions of numerous roentgenograms as well as photographs. The first edition was published in 1937 Numerous changes in various parts of the book were made in preparing the present edition, and the chapter on the legal aspects of radiation therapy was added.

MARKOVITS EMERIK

Bone and joint radiology New York The Macmillan Company 1949 446 p. illus. 26 cm. $20 00. 1065

Contents (abridged) Part one. General part. Section A— Anatomy physiology and radiologic anatomy of bones and joints.

Section B—Diseases of the bones. Section C—Diseases of the joints. Section D—Diseases of the muscles and of the soft tissues. Part two, Regional part. The skull. The spine. The pelvis and the hip joint. The femur The knee joint. Tibia and fibula. The ankle joint. Tarsal and metatarsal bones and phalanges of the foot. The thorax (ribs, clavicle, sternum, and scapula) The shoulder joint. The humerus. The elbow joint. Radius and ulna. The wrist joint. Carpal and metacarpal bones and the phalanges of the hand. Bibliography Index.

MARKOVITS, EMERIK

Visceral radiology New York The Macmillan Company 1951 612 p. illus. 26 cm. $24.00 1066

Contents (abridged) Part one, The chest and the respiratory system. Part two, The circulatory system. Part three, The digestive system. Part four, The abdomen and abdominal organs. Part five, The genitourinary system. Part six, The central nervous system. Bibliography Index.

Note: This and the preceding title are similar in organization and basic viewpoint. However, they may be used independently In each the basic plan of organization is by system. Under each system there is, first, concise discussion of the anatomy and physiology then follow fuller discussions of diseases and, finally there is some information on radiographic techniques and specific information on the interpretation of radiographs. Both books are fully illustrated. They are based on long experience in radiology most of it in Vienna and Budapest, but part of it in the United States.

MESCHAN ISADORE

An atlas of normal radiographic anatomy With the assistance of R. M. F Farrer Meschan. 1044 illustrations on 362 figures. Philadelphia W B Saunders Company 1951 593 p. illus. 26 cm. $15.00. 1067

Contents Fundamental background for radiographic anatomy Introduction to the radiographic anatomy of the skeletal system. Radiographic anatomy of the upper extremity The radiographic anatomy of the pelvis and lower extremity Radiographic anatomy of the skull. Detailed consideration of certain areas of the skull. The radiographic study of the brain. The radiographic anatomy of the vertebral column and subarachnoid space. Radiographic anatomy of the respiratory system. The radiographic anatomy of the mediastinum. Special studies of the heart and major blood vessels. The radiographic anatomy of the upper gastrointestinal tract. Radiographic anatomy of the intestine beyond the duodenum. Radiographic anatomy of the abdomen and peritoneal space. The urinary tract. The genital system. Index.

Note. As indicated in the title, this textbook is concerned with normal anatomy as it appears in radiographs. In their discussions of the various regions and systems the authors combine verbal descriptions with drawings and radiographs Many of the drawings are assembled in sets consisting of (1) diagram of the positioning of the subject, (2) reproduction of radiograph made in this position and (3) line drawing in which the various parts visible in the radiograph are identified. The author is Head of the Department of Radiology in the School of Medicine of the University of Arkansas

POHLE, ERNST ALBERT, editor

Clinical radiation therapy Second edition, enlarged and thoroughly revised, with 201 illustrations and a colored plate. Philadelphia Lea & Febiger 1950 902 p. illus. (part col d) 24 cm. $15.00. 1068

Contents: Radiation therapy in diseases of the blood and blood-forming organs, by O. O. Meyer Radiation therapy in diseases of the circulatory system, by R. Golden and H. W Jacox. Radiation therapy in diseases of the respiratory system and of the breast, by G. E. Richards. Radiation therapy in diseases of the gastro-intestinal tract, by G. T Pack and G. McNeer Radiation therapy in diseases of the female genital organs, by C. L. Martin. Radiation therapy in malignant diseases of the genito-urinary tract, by A. L. Dean and E. J. Gottmann. Radiation therapy in diseases of the nervous system, by R. W Buchanan. Radiation therapy in diseases of the eye and ear, by A. U. Desjardins. Radiation therapy in diseases of the muscles, bones, joints and tendons, by H. F Hare and M. L Sandal. Radiation therapy in diseases and dysfunctions of the glands of internal secretion, by L. J. Marnelle. Radiation therapy in inflammatory diseases, by E. A. Clark. Radiation therapy in diseases of the skin, by J. L. Eller and E. A. Clark. Radiation reactions and injuries, by G. M. MacKee and A. C. Cipollaro. The civil liability of the radiologist, by S. W Donaldson. Supplement I. Low intensity radium needles, by C. L. Martin. Supplement II. Dosage calculation in radium therapy Index.

Note: (1199) Together the chapters of this work constitute useful and authoritative guide to the potentialities and techniques of radiation therapy The coverage of techniques is not comprehensive, but those included are described explicitly and in detail. Literature references are included both for the techniques described in full and those only mentioned. In this edition the title was changed from the former *Clinical roentgen therapy* to indicate the inclusion of techniques based on radium, radioactive iodine, etc. Revisions of text and additions to the bibliography are found throughout the book.

POPPEL MAXWELL HERBERT

Roentgen manifestations of pancreatic disease. Springfield, Illinois Charles C Thomas, 1951 389 p. illus. 25 cm. $8.50 1069

Contents. General considerations. The pancreas. The duodenum. Roentgen methods of examination. Roentgen manifestations. Calcareous diseases of the pancreas. Primary pancreatic tumors. Pancreatic infections. *Pancreatic (exocrine) insufficiency Lesions of the pancreas of secondary origin.* Differential diagnosis. Statistics. *References.* Index.

Note: A series of 144 reproductions of roentgenograms, some of which illustrate conditions never portrayed before, are feature of this valuable monograph. The work is not limited to pancreatic disease but includes diseases and abnormalities of the surrounding viscera as well. The author is Associate Professor of Clinical Radiology at New York University-Bellevue Medical Center

RABIN COLEMAN B

X ray diagnosis of chest diseases. Baltimore *The Williams & Wilkins Company* 1952 208 p. illus. 26 cm. $12 00. 1070

Contents (abridged) Part I, General considerations: The value of special examinations. The use of accessory apparatus. The use of contrast media. *Fluoroscopy* Part II, General Roentgen pathology—the roentgenologic manifestations of simple pathologic processes: The normal chest. Conditions bordering on the normal. Congestion of the lungs. Pulmonary infiltration. Cavitation. Calcification. Part III, Regional Roentgen pathology—roentgenologic manifestations of the diseases. Part IV Differential diagnosis of certain Roentgen shadows: Abnormalities of the pulmonary markings. Sharply defined linear shadows. Round circumscribed shadows. *Differential diagnosis* of pulmonary cavities. Interpretation of Roentgen artifacts. Bibliography Index.

Note: A thorough treatment addressed primarily to specialists in radiology What can be seen of chest abnormalities and diseases by fluoroscopy and roentgenography is discussed thoroughly and in detail. Diseased conditions that do not show on roentgenograms but must be diagnosed by other techniques are also mentioned. As might be expected, most of the space is devoted to roentgenography, but fluoroscopy is given about 37 pages. There are 238 figures and an extensive bibliography The importance of studying series of roentgenographs of the same patient is stressed.

RITVO MAX

Chest X ray diagnosis. With 615 illustrations on 418 engravings and a colored plate. Philadelphia Lea & Febiger 1951 558 p. illus. (part col d) 26 cm. $15.00 1071

Contents (abridged) The lungs. The mediastinum. The diaphragm. The pleura. The bony thorax and the soft tissues of the chest wall. The soft tissues of the neck. The heart and great vessels. The aorta. The pulmonary artery The pericardium. Index.

Note: A treatise based on the author's 30 years of experience in the Department of Radiology of Boston City Hospital and in private practice. It covers specifically and in detail the diagnosis by means of roentgenography of disorders and diseases of the tissues of chest and neck. Although the greater part of the space is given to diseases of the heart and lungs and the tissues directly associated with them, there are discussions of other tissues, for instance the breast, which are not always included in books devoted to the chest. The limits of X-ray diagnosis in this region are discussed as well as its uses. Specialized techniques such as kymography are discussed. The illustrations, most of which are reproductions of roentgenograms, are an especially valuable feature. Literature references are included.

RITVO, MAX

Roentgen diagnosis of diseases of the skull. With four hundred and sixty-six illustrations. Foreword by George W Holmes. New York Paul B Hoeber Inc., 1949 409 p. illus. 27 cm. (Annals of roentgenology a series of monographic atlases. Vol. XIX) $16.00 1072

Contents: The roentgenologic examination of the skull. Congenital, hereditary and developmental anomalies. Traumatic and postoperative changes. Infections. Nutritional, endocrine, and metabolic disturbances. Roentgen study of the fetal skull during pregnancy. Intracranial calcifications; foreign bodies; intracranial accumulations of iodized oil; intraocular calcifications. Neoplasms. Cerebral angiography. Index.

Note: Most of the illustrations in this work are reproductions of roentgenograms selected from the files of the Boston City Hospital. The author has made special effort to represent rare conditions as well as common ones. Another useful feature is the inclusion for purposes of comparison of roentgenograms of normal skulls, both infant and adult. The illustrations take up most of the space; but the long legends which accompany them and the more generalized text are valuable also. The author is member of the faculty of the Medical School of Harvard University

RITVO MAX AND I A. SHAUFFER

Gastrointestinal X ray diagnosis. 470 illustrations with 2 in color Philadelphia Lea & Febiger 1952 838 p. illus. (part col d) 24 cm. $20 00 1073

Contents. General considerations. The pharynx—the esophagus. The stomach. The duodenum. The jejunum and the ileum. The colon. The appendix. The gallbladder The liver. The pancreas, spleen, mesentery omentum, peritoneum and abdomen. Hernia. Index.

Note. A comprehensive treatise in which both common and rare gastrointestinal conditions subject to diagnosis by X-ray are covered. It is addressed primarily to graduate roentgenologists and gastroenterologists. Although limited largely to diagnosis, certain amount of background and incidental information useful in diagnosis is included, for instance "There is distinction between erosions, acute ulcers and chronic ulcers. An acute ulcer is localized loss of tissue which penetrates deeper than the muscularis mucosae. A more superficial loss of tissue is referred to as an erosion. Extensive lists of the related literature are included. Most of the illustrations are reproductions of roentgenograms. In some instances larger scale would have been desirable, but in general the reproductions are clear

SCHWARTZ CHARLES WADSWORTH AND LOIS COWAN COLLINS

The skull and brain roentgenologically considered. Springfield Illinois Charles C Thomas 1951 386 p. illus. 24 cm. $10 50 1074

Contents Technique Normal skull Practical considerations. Congenital anomalies Traumatic disorders. Neoplastic disease—skull—intracranial. The meningiomas. The gliomas. Tumors of the hypophysis cerebri Tumors of the acoustic nerve. Lesions of blood vessel origin. Miscellaneous tumors. Infectious disease. Miscellaneous diseases. Index.

Note. A reference manual on the interpretation of roentgenograms of the skull and brain It is organized around more than three hundred excellent reproductions of roentgenograms The pictures are accompanied by concise discussions of the anomalies and diseases manifested in them. Roentgenograms that are clearly typical of the disorders represented were chosen rather than borderline cases. However special points useful in differential diagnosis are included in the discussions and in three charts. The authors are members of the faculty of the College of Physicians and Surgeons of Columbia University

SHURTLEFF, FORREST E

Children's radiographic technic. Philadelphia Lea & Febiger 1951 80 p. illus. 26 cm. $3 75 1075

Contents: Equipment and accessories. Children's radiographic positions. Special radiographic procedures. Children's technic. Index.

Note: A brief but clear description of the special techniques which have been developed at the Children's Medical Center in Boston for X-ray examinations of children. Thirty-two figures illustrating positions and apparatus are included. The final chapter tabulates the procedures according to the part of body being X-rayed and age of the child.

STEEL DAVID

Roentgen anatomy Roentgen anatomia. Springfield Illinois Charles C Thomas, 1951 109 p illus. 32 cm. $8 00. 1076

Note. An atlas of reproductions selected so as to illustrate the appearance in roentgenograms of normal anatomic structures. The book is organized so that each roentgenogram faces a diagram in which the structures are identified in both English and Spanish terms.

STORCH, CHARLES B

Fundamentals of clinical fluoroscopy with essentials of roentgen interpretation. New York Grune & Stratton, 1951. 196 p. illus. 26 cm. $6 75 1077

Contents: Basic concepts—mechanics, protection and dark adaptation. Fluoroscopy of the chest. General fundamentals. Fluoroscopy of the pathological chest. Fluoroscopy of the heart: Types of heart. Fundamentals of specific chamber enlargement. Procedure for cardiac fluoroscopy Fluoroscopy of the pathological heart. Fluoroscopy of the pharynx, hypopharynx and esophagus: Fundamentals. Pathological examination. Fluoroscopy of the stomach: Fundamentals. Fluoroscopic procedure. The pathological stomach. Fluoroscopy of the colon. Fundamentals. Fluoroscopic methods of examining the colon. Fluoroscopic study of the pathological colon. Bibliography Index.

Note A comprehensive and practical guide to the techniques of fluoroscopic examinations. It is written for general practitioners and other physicians who are not specialists in roentgenology but who use the fluoroscope in diagnosis. Each chapter includes descriptions of the anatomy of the region under discussion, preliminary preparation of the patient, positioning, examination procedures, and diagnostic interpretations of the fluoroscopic images. There are 111 figures and selected bibliography The author is member of the staff of the Radiodiagnostic Department of Beth-El Hospital, Brooklyn, New York.

YEAR BOOK OF RADIOLOGY

The 1952 year book of radiology (June, 1951–June, 1952) Radiologic diagnosis edited by Fred Jenner Hodges and John Floyd Holt. Radiation therapy edited by Harold W Jacox and Vincent P Collins. Chicago The Year Book Publishers, Inc., 1952 416 p. illus. 23 cm. $7 50 1078

Contents. Part I, Diagnosis: Introduction. Technical developments. The head. The spine and extremities. The chest. The gastrointestinal tract. The genitourinary tract. Part II, Radiation therapy: Introduction. Head and neck. Breast. Gynecology Genitourinary system. Blood dyscrasias, lymphomas and allied diseases. Miscellaneous conditions. Hazards and injuries. Treatment technics. Physics and dosimetry Radiobiology Index. Index to authors.

Note. (919*) The twenty-first issue of series that provides an annual review of the latest developments and experiences as these were reported in the international literature published June, 1951–June, 1952. Each chapter consists of series of abstracts, each of which gives the gist of an original article and is often supplemented by an editorial note which evaluates the author's findings and relates them to other work. The original source is cited in all cases. There are 317 figures in the present issue.

ZIRKLE, RAYMOND ELLIOTT editor

Effects of external beta radiation. New York McGraw Hill Book Company Inc., 1952 242 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 22 E) $3.50 1079

Contents: Techniques of external irradiation with beta rays, by J. R. Raper and others. Gross effects of beta irradiation on restricted surface of rabbits, by J. R. Raper and others. Comparative lethal effects of external beta irradiation, by J. R. Raper and others. Gross effects of total surface beta irradiation, by J. R. Raper and K. K. Barnes. Rate of recovery from total surface beta irradiation, by J. R. Raper and K. K. Barnes. Additivity of lethal effects of external beta and gamma irradiation, by J. R. Raper and K. K. Barnes. Influence of total-surface beta irradiation on the gross metabolic pattern of rats, by E. A. Barnes. Histopathological effects of single doses of total surface beta radiation on mice, by R. S. Snider and J. R. Raper. Effects of external irradiation with beta rays on the peripheral blood of rabbits, by J. R. Raper and K. K. Barnes. Changes in peripheral blood after single doses of external beta radiation, by E. A. Barnes. Reactions of human skin to single doses of beta rays, by J. E. Wirth and J. R. Raper. Delayed effects of single exposures to external beta rays, by J. R. Raper and others. Effects of periodic total-surface beta irradiation, by J. R. Raper and others. Aberrant tissue developments of rats exposed to beta rays, late effects of P^{32} beta rays, by P. S. Henshaw and others. Review of information bearing on the tumor-inducing action of superficial radiations, by P. S. Henshaw and R. S. Snider. Index.

Note. The papers in this volume are summarized reports of experimental investigations carried out as "part of an intensive radiobiological program" at Clinton Laboratories, Oak Ridge, Tennessee during World War II. Experimental methods employed and the results are both described explicitly. As the chapter titles indicate, most of the experiments were concerned with external beta rays. The energy of this radiation is entirely absorbed in superficial layer of tissues and it can therefore do direct damage only to the skin and exposed organs. However, some experiments were made to throw light on the effects of exposure to gamma radiation simultaneously or subsequently to the exposure to beta rays. Literature references are included with most of the chapters.

DISEASES GENERAL

BODANSKY MEYER

Biochemistry of disease, by M Bodansky and O Bodansky Second edition thoroughly revised and enlarged, by Oscar Bodansky New York The Macmillan Company 1952 1208 p. illus. 24 cm. $12 00 1080

Contents: Diseases of the blood. Diseases of the heart and cardiovascular system. Diseases of the respiratory tract. Diseases of the kidney and genitourinary tract. Disorders of the digestive system. Disorders of the liver and biliary tract. Diseases of the pancreas. Diseases of the adrenals. Diseases of the pituitary. Diseases of the thyroid. Diseases of the parathyroids. Diseases of bone. Diseases of muscle. Diseases of the male gonads. Applications of biochemistry in obstetrics and gynecology. Miscellaneous disorders of nutrition. Miscellaneous disorders of metabolism. Biochemical aspects of neurological and psychiatric disorders. Appendix. Index of subjects.

Note (1951) As the title indicates, this treatise is concerned with the biochemical aspects of clinical medicine. It is addressed to upperclass medical college students and to practicing physicians. It is of interest also to the upper ranks of technical personnel in diagnostic laboratories. The scope is comprehensive. Thus, there is not only discussion of the biochemistry of thyroid diseases, but also of such matters as the biochemical aspects of electric shock used in the treatment of psychoses. Extensive bibliographies are included. *The first edition appeared in 1940. This edition represents* an almost complete rewriting and considerable expansion. Many diseases are now included which were not mentioned in the first edition.

BOYD WILLIAM

The pathology of internal diseases. Fifth edition thoroughly revised with 391 illustrations and 11 colored plates. Philadelphia Lea & Febiger 1950 866 p. illus (part col'd) 24 cm. $11 00 1081

Contents: Diseases of the heart. Diseases of the arteries. Diseases of the respiratory system. Diseases of the stomach and duodenum. Diseases of the intestines. Diseases of the liver and gallbladder. Diseases of the pancreas. Diseases of the kidneys. Diseases of the adrenal glands. Diseases of the thyroid gland. Diseases of the parathyroid glands. Diseases of the pituitary body. Diseases of the blood. Diseases of the spleen. Diseases of the lymph nodes and thymus gland. Diseases of the nervous system. Diseases of the bones and joints. Index.

Note: (1952) A long-established textbook of internal medicine written from the point of view not of diagnosis or of treatment but of the mechanism of disease. Thus the pathologic and histologic aspects of diseases are fully discussed; and the relation of symptoms to lesions concludes the discussion of most subjects. The fifth edition includes new chapter on diseases of the bones and joints; and numerous smaller sections have been incorporated in various parts. However considerable part of the book is identical with the preceding edition and few references to recent literature have been added to the bibliographies.

EVANS, EARL ALISON JR.

Biochemical studies of bacterial viruses. Chicago The University of Chicago Press, 1952 68 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $2 75 1082

Contents: The nature of the virus particle. The origin of viral components. The mechanism of virus reproduction. Bibliography

Note: The lectures collected in this volume are in effect condensed survey of the results of recent work done at the University of Chicago on the biochemical aspects of the relationships between viruses and host cells. Some results from related research of other workers are incorporated. The lectures were originally delivered under the auspices of the Institute of Atomic Research at Iowa State College. They were addressed to graduate scientists working in other fields; hence the author assumed familiarity on the part of his audience (and readers) with the technical terminology of biology and chemistry. Literature references are included, therefore the book can be used also as guide for published papers which relate to the studies done at the University of Chicago.

HARRIS HAROLD JEROME

Brucellosis (undulant fever) clinical and subclinical. Second edition revised and enlarged. With the assistance of Blanche L. Stevenson. Foreword by Walter M. Simpson. With 111 illustrations 12 in full color New York Paul B Hoeber Inc., 1950. 617 p. illus. (part col d) 24 cm. $10 00. 1083

Contents: Introduction. Etiology. Epidemiology. Pathology. Symptomatology. Diagnosis. Psychologic studies in chronic brucellosis. Prognosis. Treatment. Prophylaxis. Addenda. Bibliography. Index of authors. Index of subjects.

Note: A comprehensive monograph written primarily for general medical practitioners. However its scope is so inclusive that it is useful also to specialists in clinical medicine, public health personnel, etc. The author himself attended some 700 cases of brucellosis over 15-year period. In addition to this experience he has surveyed the literature and incorporated the findings of other investigators, whose writings are listed in the 44 page bibliography. Such troublesome phases of the problem as differential diagnosis are discussed at length. Public health aspects also are covered. The first edition was published in 1941. The present edition is based on substantially higher number of cases and on the pertinent literature published since 1941. All of the chapters have been revised and enlarged.

NEW YORK ACADEMY OF MEDICINE

The musculoskeletal system. A symposium presented at the twenty third graduate fortnight of the New York Academy of Medicine, October ninth to twentieth, 1950 Edited by Mahlon Ashford. New York The Macmillan Company 1952 368 p. illus. 22 cm. $6.50 1084

Contents: The structure and biological reactivity of connective tissue, by J. Gross. The chemistry of connective tissue, by M. Schubert. On certain aspects of the physiology of muscle, by J. L. Lilienthal, Jr. Diseases and disorders of muscle function, by D. McEachern. Metabolism of calcium and phosphorus in bone, by J. E. Howard. Metabolic bone disease—facts and theories, by I. Snapper. Skeletal changes associated with diseases of the blood, by M. L. Sussman. The clinical effects of cortisone and ACTH on rheumatic diseases, by J. J. Bunim. Rheumatoid arthritis—the natural history of the disease and its management, by C. Ragan.

hemorrhagic diseases and their diagnosis. Treatment of the hemorrhagic diseases and surgical handling. Venous thrombosis. Part II, Laboratory methods. Index.

Note. In this valuable monograph the author traces the history and current status of the study of the coagulation of the blood and hemostasis in general. He then puts forth his own theory which is based on his own experiments and the data from the work of other researchers. The second and larger part of the book is devoted to description and critical discussion of laboratory tests and procedures currently used in the author's own laboratory. Bibliographies at the end of each chapter are extensive where experimentation has been extensive.

STRUMIA, MAX MAURICE, AND JOHN J MC GRAW, JR.

Blood and plasma transfusions. 124 illustrations. Philadelphia F A. Davis Company 1949 497 p. illus. 24 cm. $7.50 1096

Contents Functions of blood and its component elements. Blood groups and blood types. The Rh-Hr blood types. Indications for transfusion. Apparatus for collection and administration of blood. Storage of blood. Preparation and administration of plasma. Storage of plasma. Organization and operation of blood and plasma service. Universal use of group-O blood. Adverse reactions—transmission of disease. Preparation of crystalloid solutions. Technical appendix. Index.

Note. A practical manual designed for the information and guidance of medical practitioners, surgeons, and clinical pathologists and other hospital personnel in charge of blood banks. Basic information, such as blood grouping and blood types, is covered adequately for the purpose. However most of the space is given to discussions of clinical aspects and techniques. The chapter on storage of plasma—to take an example—is 44 pages long. Literature references are included with the chapters. The authors are members of the faculty *of the Graduate School of Medicine of the University of Pennsylvania.*

UNITED STATES ARMY ARMY MEDICAL LIBRARY

Plasma substitutes except those derived from human blood 1940–1951 An annotated bibliography compiled by Karl A. Baer Washington, D C. Army Medical Library, 1951 141 p. 26 cm. Sent free to libraries and institutions. 1097

Note A bibliography of 1[illegible] references to the international literature. The main arrangement is by substances—for example "acacia," "animal serum," and "polyvinylpyrrolidone." However there are also entries under such headings as "infusion therapy" and "shock." An author index is included.

WALL ROBERT L.

Practical blood grouping methods a manual of immunohematology Springfield, Illinois Charles C. Thomas 1952 175 p. 22 cm. (American lecture series. Publication number 122 A monograph in the Bannerstone Division of American lectures in hematology edited by Russell L. Haden) $5.00 1098

Contents: The development of the blood groups. Materials and methods. The ABO blood group system. The Rh blood group system. The MN(S) and P blood group system. Other blood group systems. Autoagglutinins, panagglutinins, "cold type" agglutinins. Antibodies associated with hemolytic type anemias. The cross-matching tests. Differential agglutination tests Recent advances and trends in immunohematology Appendix Bibliography Index.

Note A compact manual of basic information and tested methods It is addressed primarily to laboratory and hospital personnel and to medical practitioners, but its scope and organization make it useful as reference book to anyone with professional interests in the field.

WINTROBE, MAXWELL MYER

Clinical hematology Third edition, thoroughly revised. 220 illustrations and 17 plates, 13 in color Philadelphia Lea & Febiger 1951 1048 p illus (part col'd) 24 cm. $12.50. 1099

Contents. The origin and development of the cells of the blood in the embryo, infant and adult. The erythrocyte. The leukocyte. Blood platelets and coagulation. The blood as whole. The principles and technic of blood examination. Anemia—general considerations and treatment. Pernicious anemia and related macrocytic anemias. The normocytic anemias. Hemolytic anemias. Hypochromic microcytic (iron deficiency) anemia. Anemia in infancy and childhood. Polycythemia. The purpuras. Hemophilia and other hemorrhagic disorders. Leukemia. Tumors and tumor-like conditions involving the blood forming organs. Agranulocytosis and infectious mononucleosis. Appendices. Index.

Note: (933*) A standard comprehensive treatise, based on the literature of the subject and written to meet the needs of general practitioners. Emphasis is placed on the importance of accurate diagnosis and laboratory procedures which may be carried out in the office of the average physician are considered in detail. However, all aspects of the various diseases are adequately covered. There are now about 4000 literature citations.

YOUMANS JOHN B., editor

Plasma proteins. Springfield, Illinois Charles C Thomas, 1950 352 p. illus. 24 cm. (Symposia on nutrition of The Robert Gould Research Foundation Inc., Volume II) $6.50 1100

Contents: Fractionation and properties of the proteins of normal human plasma, by J L. Oncley Equilibrium treatments of the binding of ions to proteins illustrated by serum albumin, chloride, and thiocyanate, by S. H. Armstrong, Jr Plasma protein formation in disease states, by R. C. Madden. Studies on the rates of formation of serum proteins in man, by L. M. London. Some aspects of the biosynthesis of amino acids, by D. Shemin. Use of C^{14}-labeled amino acids in the study of peptide bond synthesis, by L D. Frantz, Jr., and P C. Zamecnik. The role of dietary proteins on plasma protein regeneration, by R. F Chow Some relationships between diet, protein stores, and plasma proteins, by J R. Allison. Clinical problems in hypoproteinemia due to protein deprivation, by R. Elman. Studies on the fate of intravenously administered human plasma proteins in idiopathic hypoproteinemia and in osteoporosis, by F Albright and others. Studies concerning nutritional edema and tissue proteins, by H. Gounelle. Studies on protein deficiency and temperature in relation to edema, by D M. Hegsted and others. Physiological properties of amino acid antagonists, by K. Dittmer. Studies on liver proteins, by P P. Cohen and S. Brand. The metabolism of human serum albumin administered to man, by R. D. Eckhardt and C. S. Davidson. Protein metabolism in relation to resistance to infection, by P R. Cannon. Quantitative immunochemical studies of antibody-containing serum fractions obtained by salt precipitation, alcohol precipitation, or delipidation, by M. Heidelberger and R. C. Krueger. Influence of the adrenal cortex on plasma protein formation and utilization, by A. White and S. Roberts.

Note. Original papers presented at symposium held in Chicago in September 1949 under the auspices of the University of Illinois form the contents of this volume. They are addressed to graduate scientists and medical men. Several of the papers describe the results of recent investigations. All of them were written by eminent specialists in medicine or biochemistry. Literature references are included for the individual papers, but there is no general index to the volume.

CARDIOVASCULAR AND RENAL DISEASES

ALLEN ARTHUR CHARLES

The kidney medical and surgical diseases. 1115 illustrations. New York Grune & Stratton, 1951 583 p illus. 28 cm. $15.00. 1101

Contents: Introduction. Embryology. Anatomy. Normal and abnormal physiology. Uremia. Malformations. Diseases of the glomeruli. Diseases of the tubules. Interstitial nephritis. Specific infections. Pyelonephritis. Renal pelvis calculi. Renal rickets. Diseases of the vessels. Tumors of the kidney. Histologic artefacts. Index.

Note. A survey of the current knowledge of the kidney and its diseases. Special attention is paid to the correlation of pathology with clinical observations. The author points out that changes in the kidney are often important in the diagnosis of numerous other

diseases. Descriptions of diseases are explicit and adequately detailed. Verbal descriptions are directly related to the illustrations of which there are so many that the book could justly be described as an atlas of kidney diseases and abnormalities. The total number of plates is 139 and most of the plates contain reproductions of several photographs or microphotographs. Long lists of references are included.

ALTSCHUL RUDOLF

Selected studies on arteriosclerosis. Springfield, Ill. Charles C Thomas 1950 182 p. illus. *24 cm. $5 50* *1102*

Contents Relationship between human and experimental arteriosclerosis. Experimental cholesterol arteriosclerosis. Cytology of endothelium. Dedifferentiation and metaplasia of endothelium. On the formation of foam cells in arteriosclerosis. Experimental ligature of arteries—appendix to chapters II and VI. On the simulation of experimental arteriosclerosis. Variations of tissue and organ responses in experimental arteriosclerosis. On various time factors in arteriosclerosis. Systematic description of cholesterolosis in tissues and organs. Results from modified experimental approaches. Attempts to influence the intensity of cholesterolosis. Summary and comment. Bibliography Author index. Subject index.

Note The author of this book describes its purpose as follows: "Several different aims were pursued in the preceding chapters: to bring out more distinctly some unsolved morphological problems in human and experimental arteriosclerosis; to attempt an accurate analysis of cellular pathology in various angiopathies and to correlate them; to report on findings in human and in experimental arteriosclerosis which had hitherto been overlooked; and also to describe results in experimental cholesterol arteriosclerosis which had not previously been obtained; and to modify the technique of experimental arteriosclerosis with the idea of *obtaining new results*. In it he has correlated certain results of his own experimental investigations with the findings of other workers in the field.

BARKER, JOSEPH M

The unipolar electrocardiogram a clinical interpretation By Joseph M. Barker assisted by Joseph J Wallace, advised by Wallace M. Yater Foreword by Frank N Wilson. New York Appleton-Century-Crofts, Inc., 1952 *655 p. Illus. 25 cm. $12.50.* 1103

Contents (abridged) General considerations of electrocardiography and of the electrocardiogram Fundamental electric phenomena and the electrocardiogram. The components of normal electrocardiogram. The standard extremity leads. Electrophysiology—basis for interpretation of the electrocardiogram. The normal myocardium. The potential variations of the extremities. Bundle branch block and other types of intraventricular block. *Myocardial infarction.* Transient myocardial ischemia and injury Ventricular hypertrophy or ventricular enlargement The auricular (atrial) complex and introductory considerations of the cardiac arrhythmias. The arrhythmias. disturbances of cardiac rhythm due to impulses arising from homogenetic foci—disturbances of impulse conduction (heart block) —disturbances of cardiac rhythm due to impulses arising from heterogenetic foci. Anomalous atrioventricular conduction. Reading, reporting and coding electrocardiograms. Bibliography Index

Note A substantial treatise written from the standpoint of practical use of the electrocardiogram in the diagnosis and study of heart disease. Basic matters such as the electrical fundamentals, definitions, and descriptions of electrocardiographic instruments are well covered in the first six chapters. The remainder of the book consists of chapters based on and consisting chiefly of discussions of particular case histories and the electrocardiograms made in the course of their diagnosis and treatment. However, the author has invariably drawn conclusions from the cases of which the following is typical: "There is no way to be sure of right ventricular hypertrophy from the extremity leads alone. The precordial electrocardiogram is more reliable in revealing the definitive diagnosis of either condition. There are 448 figures, of which the majority are reproductions of cardiograms discussed in the text. The bibliography is an extensive one.

BELL, ELEXIOUS THOMPSON

Renal diseases. Second edition, thoroughly revised, with 123 illustrations and 4 color plates. *Philadelphia Lea and Febiger 1950* 448 p. illus. (part col d) 24 cm. $8.00 1104

Contents: Introduction—Classification of renal diseases. Normal histology Normal and pathological physiology Developmental anomalies. Obstruction of the urinary tract—hydronephrosis. Glomerulonephritis. Tubular diseases. Extrarenal azotemia. Exudative interstitial nephritis (pyelonephritis) Diseases of the blood vessels. Diseases of the kidney related to metabolic disorders. Tumors of the kidneys. Index.

Note: (937*) The purpose of this monograph is to bring about closer cooperation between the pathologist and the clinician in the understanding of renal disease. Accordingly for each disease covered the structural changes in the kidney are correlated with the clinical manifestations. In the case of diseases where the pathology is not fully understood, the crush syndrome for instance, the views of various authorities are concisely stated. The book is based on experimental studies and very extensive series of cases. In this second edition the basic plan has not been changed, but several chapters have been revised and the bibliographies brought up to date.

BROWN, HERBERT RUTHERFORD, JR., AND OTHERS

Clinical ballistocardiography by Herbert R. Brown, jr, Vincent deLalla, jr Marvin A. Epstein, and Marvin J Hoffman. New York The Macmillan Company 1952 188 p illus. *22 cm. $5.50* 1105

Contents: Part one, Normal section: What is the ballistocardiogram and what is its value? The history of the ballistocardiograph. Types of apparatus used in recording the ballistocardiogram. Physical considerations in the construction of ballistocardiograph. The normal ballistocardiogram. Cardiac output. Respiratory variation of the ballistocardiogram. Part two, Abnormal section Significance of normal and abnormal patterns. *Abnormal respiratory variation* of the IJ stroke. Hypertension. Myocardial infarction. Angina pectoris. Congestive failure. Rheumatic heart disease. Miscellaneous disorders. Index.

Note: Ballistocardiograph apparatus has only recently become available as clinical means for the identification of circulatory and cardiac disorder. The monograph was written by four medical doctors who made special study of the technique and its application over the period 1946–1952 at the University of Rochester. The authors present all pertinent data in the field as guide to other doctors interested in the use of ballistocardiograph apparatus. Included are many examples of normal and abnormal ballistocardiograms and the summarized findings of records made in the laboratory of the authors.

CONFERENCE ON ELECTROKYMOGRAPHY

Proceedings of the first Conference on Electrokymography held May 25–26 1950 in Bethesda, Md., sponsored by the National *Heart Institute. Editors Bert R. Boone*, Frederick G Gillick, Russell H. Morgan, and Morton J Oppenheimer Washington, D C. Government Printing Office, 1951 215 p. illus. 23 cm. (United States. Federal Security Agency Public Health Service publication 59) Paper $0 75 1106

Contents: Introduction. Physiological and clinical papers: Electrokymographic recordings of displacements of the heart, by G. C Ring. Left ventricular border motion, by Simon Dack. Correlation of the border motion of the heart and great vessels as recorded by the electrokymograph with intracardiac pressure changes, by J. H. Long. Great vessel motion, by H. E. Hoyer and others. Atrial phenomena, by A. A. Luisada. Pulsations of the pulmonary vessels, by A. A. Luisada. Electrokymographic studies of electrical and mechanical asynchronism in the cardiac cycle, by P Boyer and others. Use of the electrokymograph for determination of pulse wave velocity by F L. Rawson, jr Electrokymography in constrictive pericarditis—comparisons with roentgenkymography and right ventricular pressure curves, by V A. McKusick. Electrokymographic studies of the middle arch, by F A. Bowen. Measurement of the diameter of the aorta with the electrokymograph—a progress report, by H. L. Taylor and others. Historical discussion, by W E. Chamberlain. Instrumental papers. The electrokymograph—studies in recording fidelity by H. F Zinsser, jr and others. Some characteristics of an electrokymographic instrument, by M. Landowne. Density calibration and logarithmic amplifiers, by *F W Noble*. Calibration of border motion, by G. C. Henny Papers presented by title and abstract. Bibliography on electrokymography Index.

Note: The electrokymograph is photoelectric instrument developed in 1945 by the Temple University School of Medicine and the United States Public Health Service to record the movements of the heart and great vessels. This conference was held to survey recent developments in the field of electrokymography to indicate directions of investigations which might prove fruitful for future work. It is pointed out in the publication that further progress in the evaluation of the instrument and its applications is needed before it can be recommended for routine clinical use. References are given at the conclusions of the papers, and four page bibliography of the subject appears at the end of the work.

DAVIS HARRY AARON

Shock and allied forms of failure of the circulation. New York Grune & Stratton, 1949 595 p. illus. 24 cm. $12 00 1107

Contents Historical introduction and classification. The diagnosis of shock and shocklike states. Pathogenesis of traumatic shock and hemorrhage. Physiologic changes in traumatic shock and hemorrhage. Biochemical changes in traumatic shock and hemorrhage. Pathology of traumatic shock and hemorrhage. The effects of anoxia and hypoxia in man and lower animals. Irreversible shock. Circulatory failure associated with toxemias and infections. Medical and obstetrical shock. Circulatory failure associated with diseases of the liver and of the adrenal glands. The nervous system in relation to failure of the circulation. Failure of the circulation due to disturbances of the thorax and its contents. Failure of the circulation resulting from burns and from other forms of thermal injury. Failure of the circulation resulting from anesthesia. The circulatory weakling. Treatment of shock and allied forms of circulatory failure. Index.

Note. A comprehensive treatise on acute circulatory failure. It appears to have been based on a very extensive literature survey and most of the chapters include long bibliographies. The chapter on treatment is one of the longest in the book. It includes detailed descriptions of procedures for cases of circulatory failure under all of the common clinical and surgical conditions. The technique of cardiac massage is included. The book is addressed to surgeons, obstetricians, general practitioners, and anesthesiologists. It has some interest also for physiologists.

DOTTER CHARLES T., AND ISRAEL STEINBERG

Angiocardiography With 635 illustrations on 252 figures. New York Paul B Hoeber Inc. 1952 304 p illus. 27 cm. (Annals of roentgenology Vol. xx) $16 00 1108

Contents History Angiocardiographic technic. Roentgenographic equipment and technic for angiocardiography Contrast substances for angiocardiography; angiocardiographic mortality The normal angiocardiogram. Syphilitic aortitis and aneurysm. Rheumatic, arteriosclerotic, and hypertensive heart disease. Pulmonary heart disease. Miscellaneous acquired heart diseases. Noncyanotic congenital heart disease. Cyanotic congenital heart disease. Mediastinal tumors. Pulmonary tumors. Pulmonary disease. Index

Note The current status of angiocardiography diagnostic method based on the use of X-rays to study the cardiac chambers and thoracic great blood vessels, is presented in this work. Equipment, techniques, and the interpretation of angiocardiograms are covered in detail. The reproductions of angiocardiograms, which constitute majority of the illustrations, are an especially valuable feature. Substantial bibliographies are included The authors are faculty members of Cornell University Medical College.

DRESSLER, WILLIAM AND HUGO ROESLER

An atlas of electrocardiography Springfield, Illinois Charles C Thomas 1949 503 p. illus. 21 cm. $14 00 1109

Contents (abridged) Electrocardiographic patterns (not including disturbance of rhythm) Patterns of disturbance of rhythm. Advances in the electrocardiographic diagnosis of myocardial infarctions. Interpretation of the electrocardiogram with the aid of unipolar limb leads. Index

Note. More than 400 electrocardiograms have been reproduced without retouching in this work The book is organized so that the reproductions appear on right-hand pages and textual interpretations and clinical data appear on the facing left-hand pages. Special attention is given to the interpretations of electrocardiograms with similar patterns, and points that aid in differential diagnosis are mentioned.

ENGEL, GEORGE LIBMAN

Fainting: physiological and psychological considerations. Springfield Illinois Charles C Thomas, 1950 141 p. illus. 22 cm. (American lecture series. Publication number 37 Edited by Charles D Aring) $3 50. 1110

Contents: Introduction. Fall in arterial blood pressure. Cardiac standstill. Cerebral vascular disorders. Disturbances in cerebral metabolism. Hysterical fainting. Hyperventilation. Cardiac disease. Fainting during air travel. Sudden death. Incidence and diagnosis of syncope. Differential diagnosis. References. Index.

Note. In this book the clinical aspects of fainting, including fatal syncopes, are discussed against the background of the underlying physiology and psychology There is bibliography of 78 references. The book is of interest to wide range of medical practitioners.

FAHR, LEE E

Treatment of the nephrotic syndrome. Springfield, Illinois Charles C Thomas, 1951. 61 p. 22 cm. (American lecture series. Publication no 64 A monograph in American lectures in circulation edited by Irvine H. Page and Arthur Curtis Corcoran) $2.25 1111

Contents: Treatment of edema. Treatment of malnutrition. Treatment of the renal lesion. Treatment of complications. Nephrotic crises. Cortisone, ACTH and nitrogen mustard. General comments. References.

Note: A brief survey addressed primarily to the general practitioner of the various treatments currently used on patients with nephrotic syndrome. It is based both on an analysis of published experiments and on clinical practice. Advantages and disadvantages of each treatment are discussed. There is bibliography of 71 citations.

FRIEDBERG CHARLES KAYE

Diseases of the heart. Philadelphia W B. Saunders Company 1949 1081 p. illus. 25 cm. $12 00 1112

Contents (abridged) Part I, Circulatory failure: Cardiac insufficiency and cardiac failure. Cardiac and circulatory compensation. Enlargement of the heart. Etiology of chronic (congestive) heart failure. The pathogenesis of congestive heart failure. The pathogenesis of individual manifestations of congestive heart failure. Acute circulatory failure. Part III, The coronary circulation and disturbances in cardiac blood supply: Variation of coronary artery disease. Coronary arteriosclerosis. Angina pectoris. Acute coronary occlusion and myocardial infarction. Part IV Structural abnormalities of the heart Acute pericarditis. Myocarditis and myocardial disease of obscure origin. Endocarditis and endocardial disease. Mitral valvular disease. Aortic insufficiency Aortic stenosis. Tricuspid and pulmonic disease. Congenital valvular disease. Part Etiologic forms of heart disease. Congenital heart disease. Rheumatic fever. Bacterial endocarditis. Syphilis of the heart and aorta. The heart in infections. The heart in hypertension and renal disease Acute cor pulmonale and pulmonary embolism. The heart in hyperthyroidism. The heart and circulation in myxedema. Other endocrine, metabolic and nutritional disturbances. The heart and circulation in anemia. Traumatic heart disease. Cardiac tumors. Part VI, Special problems in heart disease: Pregnancy and heart disease Surgical procedures in the cardiac patient. Insurance and medicolegal problems in cardiac disease. Index.

Note A comprehensive treatise in which the main emphasis is on pathologic physiology and the clinical manifestations of cardiac diseases. The treatment is even more detailed than the above abridged table of contents indicates. For example, three chapters are devoted to the various facets of acute coronary occlusion and myocardial infarction. All chapters are supplemented by lengthy bibliographies and numbered references are made from statements in the text to the bibliographies. The book is suitable for use as a textbook in medical schools and also as reference book in the office libraries of general practitioners. The author is associated with Mount Sinai Hospital in New York City

GOLDBERGER EMANUEL

Heart disease its diagnosis and treatment. 90 illustrations. Philadelphia Lea & Febiger 1951 651 p. illus. 24 cm. $10.00. 1113

Contents (abridged) Section 1 The normal heart: Physical examination of the cardiovascular system. Recording and timing of heart sounds and murmurs, and pulsations of the heart and blood vessels. X-ray examination of the heart. Electrocardiographic examination. Tests of circulatory efficiency Section 2 The abnormal heart: Symptoms referable to the cardiovascular system. Abnormal physical signs referable to the cardiovascular system. Abnormal findings on fluoroscopic and X-ray examination. Abnormal electrocardiographic findings. Abnormal findings in tests of circulatory efficiency Section 3 Cardiac syndromes: Congestive heart failure. The shock syndrome. Syncope and related states. The anginal syndrome. Neurocirculatory asthenia. The cardiac arrhythmias. Premature contractions, and paroxysmal tachycardia. Auricular flutter, and auricular fibrillation. Bundle branch block. Section 4 Systematic description of cardiac abnormalities: Congenital heart disease. Auricular septal defects. Ventricular septal defects. Congenital valvular and endocardial lesions, and congenital abnormalities of the veins. Myocarditis. Rheumatic fever. Bacterial endocarditis. Rheumatic heart disease. Syphilitic heart disease. Hypertensive heart disease. Diseases of the coronary arteries. Diseases of the pericardium. Diseases of the aorta, pulmonary artery and other blood vessels. The heart in endocrine diseases. The heart in nutritional, metabolic and other diseases. Tumors of the heart. Cardiac trauma. Section 5, Special conditions complicating heart disease. Index.

Note: A textbook and reference manual in which techniques of physical diagnosis are emphasized. However basic information on the use of such techniques as electrokymography and electrocardiography is included also. The point of view from which the book is written is that physical techniques are still the most useful in the diagnosis when the patient is first seen, and that they can still be employed to provide a wide range of dependable information about the heart disorders of most patients. The discussions of most diseases are very concise and cover, generally speaking, pathology pathological physiology signs and symptoms, findings in fluoroscopic, X-ray angiocardiographic, catheterization, and electrocardiographic studies, diagnosis, course and prognosis, and treatment. Most of the illustrations are diagrammatic representations of essential features of fluoroscopic and X-ray pictures and of electrocardiograms. Selected bibliographies which are largely limited to easily accessible literature in the English language are included.

GOLDBERGER EMANUEL

Unipolar lead electrocardiography Second edition, thoroughly revised with 221 illustrations. Philadelphia Lea & Febiger 1949 392 p. illus. 24 cm. $10.00 1114

Contents (abridged) Section I, The principles of electrocardiography and the normal electrocardiogram: The electrical currents produced by normal heart muscle. The method of taking augmented unipolar extremity leads and unipolar precordial leads. The basic normal unipolar lead patterns. The normal electrocardiogram—the effect of the position of the heart on the normal electrocardiogram. Measurements of the waves and amplitudes of the electrocardiogram and their normal values. Section II, Abnormal electrocardiographic patterns: The effects of hypertrophy of the heart on the electrocardiogram. Bundle branch block. Myocardial injury Functional changes in the RS-T segment and T wave. Section III, Normal and abnormal cardiac rhythms: Sinus rhythms. A-V nodal rhythm. A-V block and A-V dissociation. Premature contractions. Paroxysmal tachycardia. Auricular flutter and auricular fibrillation. Appendices. Index.

Note: ([illegible]) The standard treatise on electrocardiography with unipolar leads, or leads arranged so as to record the potentials from a single region of the body It is based on the author's own extensive study of this technique and on the literature. The first edition was published in 1947 In this edition the work contains fully twice as much text and 221 illustrations in comparison to 88. As was the first edition, this edition is addressed primarily to medical college graduates who are taking graduate work in heart diseases or who are beginning the practice of this specialty

GRANT ROBERT P., AND E HARVEY ESTES JR.

Spatial vector electrocardiography: clinical electrocardiographic interpretation. New York The Blakiston Company 1952 149 p. illus. 22 cm. $4.50 1115

Contents: Part I, The spatial vector method of interpretation The vectors of the heart. The limb leads as vector measurements. The precordial leads as vector measurements. The method for calculating the spatial vectors from conventional leads. Part II, The clinical application of the spatial vector method: The characteristics of the spatial vectors in the normal subject. The abnormal ECG. Abnormalities of the QRS vectors. Abnormalities of the T vector. The vectors in myocardial infarction. The ventricular gradient. Broader implications of the spatial vector method. Bibliography Index.

Note: This little volume is not intended to serve as a textbook on electrocardiography but rather to explain how vector methods may be applied in the clinical interpretation of electrocardiograms. The book is written for the general practitioner and does not require any special training in physics or mathematics. Technical terminology has been avoided, and only those theoretical aspects of the subject which are essential to a clear understanding of the clinical applications are included.

GRAYBIEL ASHTON AND OTHERS

Electrocardiography in practice, by Ashton Graybiel, Paul D White, Louise Wheeler Conger Williams. Third edition with 294 figures. Philadelphia W B Saunders Company 1952 378 p. illus. 28 cm. $10 00 1116

Contents (abridged) Part I, Introduction: Physiologic principles. Principles of operation of the galvanometer. Part II, Methodology: Methodology Part III, The typical normal electrocardiogram and its variations: Electrical orientation of the heart. Chest and esophageal leads. Limb leads. Electrocardiographic variations due to physiologic factors. Artifacts and technical errors. Part IV Disorders of rhythm and conduction. Part V Electrocardiographic alterations due to drugs and chemicals. Part VI, Electrocardiographic patterns. Part VII, Etiologic types: Congenital heart disease. Rheumatic heart disease. Subacute bacterial endocarditis. Cardiovascular syphilis. Diphtheria. Endocrine disorders. Hypertensive heart disease. Cor pulmonale. Coronary heart disease. Part VIII, Electrocardiograms for practice in interpretation. Index.

Note: ([illegible]) A useful book for the general medical practitioner. The first three parts are introductory to the subject; however, following them most of the space is given to reproductions of electrocardiograms. Each electrocardiogram is accompanied by a concise description and a fairly detailed interpretation. The range of cases illustrated is sufficiently varied to lend the book some interest for the specialist. The second edition was published in 1946. This third edition represents an extensive revision. Now the first chapter outlines the historical development of electrocardiography; the principles of vector cardiography are explained although the reader is warned that this technique is not yet ready for general clinical use, and many new electrocardiograms have been included. The format of the volume has been improved.

GREGG DONALD EATON

Coronary circulation in health and disease. 73 illustrations. Philadelphia Lea & Febiger 1950 227 p. illus. 24 cm. $4.50 1117

Contents: Introduction—a statement of the problem. General anatomic considerations Experimental approaches to the coronary circulation. Preparations. Cardiac pressures and their determination. Experimental approaches to the coronary circulation. Coronary flow—its determination Distribution of coronary blood flow Phasic flow curves. The determinants of coronary blood flow and their evaluation. Metabolism and work. The coronary circulation in heart disease and heart failure. Index.

Note: In this original monograph the author has summarized the results of his own fifteen years of experimental investigation of coronary circulation and the related work of other scientists. After outlining the extent of the heart disease problem he proceeds to analyze and discuss experimental findings and techniques. Most of the experiments covered were made on animals, especially the dog, but in the final chapter the author considers human heart disease and especially atherosclerosis in man. Each chapter has an extensive bibliography of studies done throughout the world during the past 15 years. The author is Chief Research Physician, Medical Department, Field Research Laboratory Fort Knox, Ky

HOLDEN WILLIAM D

Acute peripheral arterial occlusion. Springfield, Illinois Charles C Thomas, 1952 illus. 66 p. 22 cm. (American lecture series. Publication no. 141 A monograph in American lectures in circulation, edited by Irvine H. Page and A. C. Corcoran) $2.35 1118

Contents: The etiology of acute arterial occlusion. Hemodynamic changes following an acute arterial occlusion. Clinical manifestations. Management of acute arterial occlusion. Bibliography. Index.

Note: A brief but valuable presentation of medical and surgical therapies and related knowledge bearing on acute peripheral arterial occlusion. It is addressed to general physicians and surgeons and the final chapter consists of very specific suggestions for emergency and restorative treatments of patients stricken with this disorder. The author is Professor of Surgery in the School of Medicine of Western Reserve University.

HURST, JOHN WILLIS, AND GRATTAN C WOODSON, JR.

Atlas of spatial vector electrocardiography New York The Blakiston Company, Inc. 1952 214 p. illus 16 cm. $6.00 1119

Contents: Part one, The spatial vector method. The spatial vector method. Part two, Clinical application of vector electrocardiography. The normal ventricular electrocardiogram. Right and left ventricular hypertrophy. Myocardial infarction. QRS conduction defects. Effects of digitalis. Pericarditis. Pulmonary embolism. Summary. Appendix. Bibliography. Index.

Note: This work is largely a pictorial presentation of techniques of interpreting, by the vector method, standard electrocardiograms. It is designed as a companion work to R. Grant and H. Estes, *Spatial vector electrocardiography* described above. The first chapter of the Atlas is a concise outline of the principles and techniques of the spatial vector method. The rest of the book is made up largely of reproductions of electrocardiograms which are accompanied by interpretive diagrams and descriptions. There are 90 figures and most of them are full page in size.

LEPESCHKIN, EUGENE

Modern electrocardiography Volume I The P-Q-R-S-T-U complex. Foreword by Frank N Wilson Baltimore The Williams & Wilkins Company 1951 598 p illus. 26 cm. $12 00 1120

Contents: Electrocardiographic artifacts and their prevention. The leads of the electrocardiogram and their laws. Electrical activity of heart muscle as the basis of the ECG. The electrocardiogram of animals. The normal human electrocardiogram and its interpretation. Influence of physiological factors on the electrocardiogram. Influence of physical agents. Chemical, pharmacological and toxicological influences. Vitamins and hormones. Intraventricular conduction disturbances. Ventricular hypertrophy and strain. Myocardial infarction. Coronary insufficiency. Pericarditis. Myocarditis in acute infections and allergic states. Bibliography and author index. Subject index.

Note: The first volume of a comprehensive, well-organized presentation of the information on electrocardiography that has appeared in the periodical literature from the beginning of 1914 to May 1950. Generally speaking, under each heading and subheading enough information is included on specific points to satisfy the needs of the medical practitioner who is seeking information on diagnosis and techniques. On the other hand, the specialist (or general practitioner) who desires more information on a particular point can find it by means of the numbered references to the particular source articles. The bibliography contains more than 10,000 references to the international literature. The author is at present a member of the faculty of the University of Vermont College of Medicine.

LEVINE, SAMUEL ALBERT

Clinical heart disease. Fourth edition, illustrated. Philadelphia W B Saunders Company 1951 556 p. illus. 25 cm. $7 75 1121

Contents: Rheumatic fever. The development of rheumatic heart disease—mitral valve disease. Diseases of the aortic and tricuspid valves. Diseases of the pericardium. Angina pectoris and coronary thrombosis. Hypertensive heart disease, arteriosclerosis, chronic myocarditis, and rare forms of heart disease. Thyroid heart disease. Syphilitic heart disease. Bacterial endocarditis. Congenital heart disease. Functional heart disease. Paroxysmal rapid heart action. Acute cardiovascular emergencies. The significance of bronchial and other factors in the production of dyspnea. The clinical significance of the systolic murmur. The patient with heart disease as a surgical or obstetric risk. Nature and treatment of congestive heart failure. Clinical electrocardiography. Index.

Note: (973.) A standard work in which heart disease is presented for the general practitioner of medicine rather than the specialist or student preparing for a specialty. Not as many conditions are covered as in the full-scale treatises but the presentation is simpler and better suited to the needs of the physician concerned with the ordinary care of a few heart patients. The main emphasis is on diagnosis and prognosis. Surgical treatments are discussed for the information of the general practitioner, but surgical techniques are not described. The discussion of electrocardiography covers 100 pages, and most of the illustrations in the book are reproductions of electrocardiograms. In the present edition revisions have been made to incorporate the major advances of recent years such as surgery in the treatment of congenital heart disease, anticoagulants in the treatment of coronary thrombosis, and antibiotics in the treatment of bacterial endocarditis.

LEVINE, SAMUEL ALBERT, AND W PROCTOR HARVEY

Clinical auscultation of the heart. Illustrated. Philadelphia W B Saunders Company 1950 327 p. illus. 24 cm. $6.50. 1122

Contents: Heart sounds. Cardiac irregularities. Cardiac murmurs. Miscellaneous auscultatory findings. Index.

Note: The diagnostic value of the sounds of the heart as heard in the stethoscope and recorded by the phonocardiograph is the main theme of this thorough book. The authors stress the importance of informed use of the stethoscope and deplore the tendency to neglect its use in present-day diagnostic examinations. They discuss heart sounds in detail from the standpoint of general practitioners of medicine and clinicians. Most of the 214 figures in the work illustrate electrocardiograms and phonocardiograms taken simultaneously on the same patient. Correlations between the two kinds of records are discussed. Both authors are associated with the Harvard Medical School.

MACLEAN, JOHN T

Acute renal failure, including the use of the artificial kidney Springfield Illinois Charles C Thomas 1952 114 p. illus. 24 cm. $6.50. 1123

Contents: Factors concerned in the production of acute renal failure. The role of acid base balance in renal failure. Renal circulation—intrarenal circulation—renal anoxemia. Lower nephron nephrosis. The diagnosis of acute renal failure due to lower nephron nephrosis. The treatment of acute renal failure due to an ischemic lesion of the lower nephron nephrosis type. Methods of removing the excess waste products from the blood. Dialysis with the artificial kidney. Adreno-cortico trophic hormone. Index.

Note: A useful brief summary addressed to general practitioners. The causes and physiology of renal failure are discussed with particular emphasis on the biochemical and clinical aspects. Methods and treatment within the scope of the practitioner with limited hospital and laboratory facilities are described compactly and literature references are given to fuller discussions. Although the artificial kidney is not an instrument available to physicians practicing in small communities, its principles and applications are described so that the general practitioner will know what may be accomplished by its use. The author is a prominent Canadian urologist.

MCMANUS JOSEPH FORDE ANTHONY

Medical diseases of the kidney (an atlas and introduction) 100 illustrations. Philadelphia Lea & Febiger 1950 176 p. illus. 26 cm. $6 00 1124

Contents: The nephron in general. Connective tissue, vessels and nerves. The glomerular root. General reactions of the kidney to injury. Acute renal failure—clinical features—acute glomerulonephritis—the crush kidney—acute hypertension. [illegible]—acute pyelonephritis; the toxic nephroses. Chronic renal failure. The problem of nephritis. Chronic pyelonephritis. Chronic glomerulonephritis; the shrunken kidney. Polycystic kidneys. Intercapillary glomerulosclerosis. The kidney in hypertension—in diabetes—in amyloidosis—in lead poisoning—in embolism—in syphilis. Incidental diseases. References. Index.

Note: An introductory work in the form of an atlas containing 100 pictures, many of which are reproductions of microphotographs. Most of the photomicrographs are taken from sections prepared by the periodic acid Schiff's reagent technique. The illustrations are accompanied by many discussions and rather long legends. The book is divided in the two main groupings of acute renal failure and chronic renal failure. The bibliography is selected. The author is Professor of Pathology in the Medical College of Alabama.

MARPLE, CHARLES DALLIBA, AND IRVING S. WRIGHT

Thromboembolic conditions and their treatment with anticoagulants. Springfield Illinois Charles C Thomas 1950 418 p. illus. 24 cm. $9.50 1125

Contents (abridged) Section I, Thromboembolic phenomena in clinical medicine: Venous thrombosis and pulmonary embolism. Thromboembolic phenomena in cardiovascular disease. Thromboembolic phenomena in coronary occlusion with myocardial infarction. Section III, Rationale for the use of the anticoagulants: Heparin and experimental thrombosis. Dicumarol and experimental thrombosis. Section Technics for the administration of the anticoagulants: The administration of heparin. The administration of dicumarol. Section IX, Miscellaneous observations: Hyperheparinemia, or hyperheparinemia. The effect of anticoagulants on the erythrocyte sedimentation rate. The effect of anticoagulants on the electrocardiogram. Appendices. Method of determining the coagulation time of whole blood. The determination of prothrombin. Two-stage prothrombin determination. Method for the determination of the prothrombin clotting time. The protamine titration. References. Index.

Note: A monograph based partly on an extensive survey of the literature and partly on the authors' own clinical experiences. It makes available to medical practitioners and to research workers in medicine and allied fields the gist of the more important literature down to approximately the end of 1949. Apparently considerable time elapsed between the writing of the original part of the book and its publication, for the section titled "Recent developments" is 108 pages long and is based mostly on the publications of 1949. The arrangement of the book makes it necessary for the reader to consult both main chapter and supplement to it under "Recent developments" in order to cover specific topic.

MASTER, ARTHUR MORRIS, AND OTHERS

Normal blood pressure and hypertension new definitions. By Arthur M. Master Charles I. Garfield and Max B Walters. With 36 illustrations. Philadelphia Lea & Febiger 1952 144 p. illus. 24 cm. $4 00 1126

Contents: History of principles and methods of clinical sphygmomanometry. History of blood pressure, evolution of normal limits. Factors affecting the blood pressure level. The need for increasing the range and limits of normal blood pressure—new limits of hypertension. Presentation of new limits of normal blood pressure. Interpretation and clinical application of new blood pressure limits. Index.

Note. The currently accepted values of "140–150 mm. mercury as the upper limit of the normal systolic pressure, and 90–95 mm. as the upper limit of the normal diastolic pressure, irrespective of age and sex" are shown in this book to be based on selected rather than representative population. New values based on statistical study of 74,000 unselected individuals, representative of the average healthy working population, are offered. The authors state "these new limits have been found to be definitely higher than those heretofore used, and to vary with the age, the sex, and the weight of the subject." The importance of correlating blood pressure with other elements of the clinical picture is stressed. The results of the study are presented in considerable detail in 33 tables, and the findings are related to other data in the literature. Each chapter contains an extensive bibliography.

MILLER, HEYMEN RUDOLPH

Angina pectoris and myocardial infarction with special reference to the autonomic nervous system New York Grune & Stratton, 1950 336 p. illus. 24 cm. $8 75 1127

Contents: Section one, General clinical aspects: Clinical features of angina pectoris (acute coronary insufficiency) and acute myocardial infarction. Electrocardiographic findings in angina pectoris, acute myocardial infarction and acute extracardiac conditions. Section two, Physiological aspects: General autonomic regulations. The autonomic regulation of circulation. Section three, Autonomic pathways for cardiac pain. The sympathetic pathways for anginal pain. The vagal supply to the heart and aorta. The anastomoses between the sympathetic and vagal systems. Section four, Reference, distribution and modulation of anginal pain. The dermatomes concerned with anginal pain. The distribution or reference of anginal pain. The dissolution of anginal pain, angina pectoris, and acute myocardial infarction. Section five, Concept and mechanism of anginal pain. Section six, Psychosomatic disorders of the heart. Section seven, Treatment of angina pectoris and myocardial infarction. General management and medical treatment. Surgical treatment. Author index. Subject index.

Note: The author of this text expresses his primary aim in these words "to point out the relative role of the autonomic nervous system in regard to clinical manifestations, differential diagnosis, functional pathogenesis and the medical, surgical and psychological management of cardiac pain." Considerable attention is given to the relations between cardiac pain and the autonomic nervous system. Most of the 62 illustrations are diagrammatic three-dimensional representations of nerves and connections. The chapters on medical and surgical treatment account for only 30 pages, but they are well-supplemented by literature references; in fact, extensive literature references are a feature of the entire book. This work replaces an earlier one on the same subject by the author which appeared in 1939 and was reissued with an appendix in 1942. It contains much material that did not appear in the earlier version.

MOVITT, ELI RODIN

Digitalis and other cardiotonic drugs. Second edition, revised and enlarged. New York Oxford University Press, 1949 245 p illus. (part col d) 24 cm. $5 75 1128

Contents (abridged) I, Digitalis folium. Historical data. Source and chemical structure. Pharmacology. Clinical applications. II, Digitalis lanata. Source and chemical structure. Pharmacology. Clinical applications. III, Lanatoside C: Chemical structure. Pharmacology. Clinical applications. IV Other cardiotonic glycosides from digitalis plants: Digitaline nativelle. Digoxin. Gitalin (amorphous). V, Strophanthus. Historical data. Source and chemical structure. Pharmacology. Clinical applications. VI, Squill. Historical data. Source and chemical structure. Pharmacology. Clinical applications. VII, Other cardiotonic agents of plant origin. Thevetia. Various glycosides of plant origin. VIII, Cardiotonic glycosides of animal origin and cardiotonic alkaloids: Toad poisons. Erythrophleine. Conclusions. Appendices. Index of subjects. Index of authors.

Note (1st ed. 1946) A survey for the general medical practitioner of current knowledge regarding the chemical, pharmacological, and clinical behavior of drugs used in the treatment of heart diseases. It is based on a survey of the literature and each chapter concludes with an extensive bibliography. Important revisions and additions have been made in the second edition. Changes have been made both in the text and in the bibliography and the length of the book has been increased by about forty pages.

PRINZMETAL, MYRON AND OTHERS

The auricular arrhythmias. By Myron Prinzmetal, Eliot Corday, Isidor C. Brill, Robert W Oblath, H. E. Kruger and Associate authors Joshua Fields, Walter Flieg, Alfred Goldman Harold Karpman, S Rexford Kennamer John A. Osborne, Alvin L. Sellers, and L. Allen Smith. Springfield Illinois Charles C Thomas 1952 387 p illus. (part col d) 29 cm. $16 50 1129

Contents: The normal auricles. Auricular premature systole. Auricular paroxysmal tachycardia. Experimental production of auricular premature systoles and auricular paroxysmal tachycardia in man. The motion of the auricles in auricular flutter. Electrocardiographic studies of auricular flutter. An electrocardiographic analysis of the structure of the auricular deflections of auricular flutter and tachycardia. Electrocardiographic observations of spontaneous auricular flutter and auricular paroxysmal tachycardia in man. Further clinical observations on auricular flutter and tachycardia. Examples of physiologic diagnosis of auricular tachycardia and flutter. Clinical aspects of auricular fibrillation. The motion of the auricles in auricular fibrillation. The electrical activity of fibrillating auricles. Further considerations on the nature of auricular fibrillation. Ventricular aberration in the auricular arrhythmias. Pharmacologic considerations in the auricular arrhythmias. Treatment of the auricular arrhythmias. The unitary nature of the auricular arrhythmias. Appendix—methods and equipment. Bibliography. Index.

Note: A contribution of major importance. It is based on an extensive series of experimental and clinical observations in which the high speed cinematograph was applied for the first time to the study of auricular arrhythmias. Studies with this instrument were supplemented by studies with the dual beam cathode ray oscillograph and the multiple-channel electrocardiograph. The original observations were made on experimental animals, but these were later supplemented by observations on human beings. A much more complete

and more accurate picture of the auricular arrhythmias is presented here than was available hitherto. There are 514 illustrations, of which 22 are reproduced in color; and a bibliography of 636 references. The book is potentially of interest both to specialists in cardiology and to medical practitioners in other branches of medicine including general practice.

RINZLER, SEYMOUR H.

Cardiac pain Springfield Illinois Charles C Thomas 1951 139 p. illus. 22 cm (American lecture series Publication no 113 A monograph in American lectures in circulation edited by I. H. Page and A. C Corcoran) $3 75 1130

Contents. History Nerve pathways of the heart. Mechanism of production of cardiac pain. Medical therapy Surgical therapy Summary References. Index.

Note. A short but well-documented review of the contemporary status of diagnosis and treatment of cardiac pain. The author views the clinical and pathological knowledge as fairly complete, and states that "we are entering a brighter more hopeful period of therapeutics. Both medicine and surgery are making rich contributions to the relief of pain of cardiac origin. The principal studies which have contributed to current therapies are described and the source articles are cited. The medical and surgical therapies of demonstrated value are critically evaluated. The book is addressed to general practitioners and to specialists in clinical medicine. The author is a member of the staff of the Cardiovascular Research Unit of Beth Israel Hospital, New York City

ROBB GEORGE PORTER

An atlas of angiocardiography Prepared for the American Registry of Pathology Armed Forces Institute of Pathology Washington American Registry of Pathology 1951 141 p. illus. 22 cm. $7 50 1131

Contents Introduction. The technique of angiocardiography The clinical uses of angiocardiography Angiocardiographic interpretation. The normal angiocardiogram Lesions of the superior vena cava and tributaries. Congenital heart disease Acquired heart disease Disorders of the pericardium Acquired aortic disease. Intrathoracic tumors. Lesions of arteries. References Index of cases.

Note. In this work the technique, clinical uses, and other basic aspects of angiocardiography are discussed by the originator of the currently used technique The preliminary basic material extends to and includes the section on the normal angiocardiogram and occupies nearly half of the book. The remainder of the space is devoted to illustrations and discussions of forty individual cases in which angiocardiography was used In each of these case histories there are reproductions of one or two angiocardiograms.

SAMUELS, SAUL SIMON

Management of peripheral arterial diseases. New York Oxford University Press, 1950 345 p. illus. 23 cm. $7.50 1132

Contents General considerations. Symptoms of occlusive arterial disease of the extremities. Objective evidence of occlusive disease of the arteries of the extremities. Oscillometry Thrombo-angiitis obliterans. Arteriosclerosis obliterans. Raynaud's disease Erythromelalgia. Acrocyanosis. Periarteritis nodosa. Essential thrombophilia. Embolism. Cervical ribs and scalenus anticus syndrome. Thrombosis of the axillary vein. Frostbite. Ergotism. Glomus tumor Aneurysm of the peripheral vessels. Medico-legal aspects of peripheral arterial disease. Index of authors Subject index.

Note. (2780) As in the earlier edition the author argues for conservative therapy rather than amputations in the treatment of gangrene and other conditions of arterial insufficiency in the extremities. The book is based on an experience extending over a period of 25 years, and the details of many case histories are given. Most of the 112 illustrations are from case records. Short bibliographies are included with the chapters.

SMITH, HOMER WILLIAM

The kidney structure and function in health and disease. New York Oxford University Press, 1951 1049 p. illus. (part col'd) 24 cm. $15 00 1133

Contents (abridged) Anatomy Studies on individual nephrons. Measurement of the filtration rate. Excretion of urea. Clearances involving active tubular reabsorption. Clearances involving tubular excretion. Other clearances. Excretion of protein. The reliability of inulin as a measure of glomerular filtration. The antidiuretic hormone and the excretion of water. Excretion of sodium and other strong electrolytes. The adrenal cortex and Addison's disease. Acid-base equilibria in plasma and urine. The control of the renal circulation and the action of pharmacodynamic agents. Trophic and other factors related to renal function. Renal function in infancy and childhood. Renal hemodynamics. Limitations of clearance methods during disturbed renal function. Disturbances of renal function in non-renal disease. Chronic congestive heart failure. Essential hypertension. Acute renal failure related to traumatic and toxic injuries. The juxtamedullary circulation. Diseases of the kidney and urinary tract. Diuretics. Bibliography Index.

Note: A comprehensive monograph of the current knowledge of renal function and dysfunction. It covers both the physiology of the kidney and the part played by the kidney in the physiology of the body The work is based on a comprehensive survey of the literature and a good part of the text consists of concise digests of previously published papers including the author's own. Statements in the text are key numbered to the bibliography and as an added reference feature the page numbers on which references are made to particular publications are noted in the bibliography The books and papers listed in the bibliography number 2800.

STEWART, HAROLD J

Cardiac therapy New York Paul B Hoeber Inc., 1952 622 p illus. 26 cm. $10.00. 1134

Contents (abridged) Congestive heart failure. Mercurial diuretics. Digitalis. Anticoagulant drugs. Congenital heart disease. Rheumatic fever and rheumatic heart disease. Cardiovascular syphilis. Hypertension and heart disease due to hypertension. Hypotension. Arteriosclerotic heart disease. Coronary artery disease and angina pectoris. Myocardial infarction, coronary thrombosis, coronary occlusion. The heart in hyperthyroidism. Pulmonary heart disease. Beriberi heart disease. Diseases which may have cardiac manifestations or simulate cardiac disease. Acute myocarditis. Diseases of the pericardium and the mediastinum. Subacute bacterial endocarditis. Neurocirculatory asthenia (effort syndrome, Da Costa's syndrome) Cardiac pain. Carotid sinus syndrome. Glossopharyngeal neuralgia (tic douloureux associated with cardiac arrest) Heart disease in the aged. Heart disease and pregnancy Surgery in patients with heart disease. Effect of electrolyte changes in blood on heart and circulation. Prevention of heart diseases. Diets in heart disease. Index.

Note. As the title indicates, the primary emphasis in this work is on the treatment of heart disorders. The author has assumed that his readers will have the essential background knowledge of etiology pathology etc. In most of the chapters there is a paragraph or two on these aspects, but most of the space is given to detailed discussions of treatment both medical and surgical. Recently developed drugs and recently developed surgical techniques are both fully covered Literature references are included in the chapters. The author is head of the Division of Cardiology of the Department of Medicine of New York Hospital-Cornell Medical Center.

STROUD WILLIAM DANIEL editor

Diagnosis and treatment of cardiovascular disease. Fourth edition. 808 illustrations—five full-page color plates. Philadelphia F A. Davis Company 1952 2 v illus. 27 cm. $25 00 1135

Contents: Volume 1 Some historical comments pertaining to cardiology by F A. Willius. The prevention and relief of heart disease as a public health problem, by H. M. Marvin. Introduction to diseases of the cardiovascular system, by H. B. Sprague and P D. White. The normal heart—its output and the circulatory rate, by J. T King, Jr Heart sounds, by C. C. Wolferth and A. Margolies. Congenital cardiovascular abnormalities, by R. Ash. Rheumatic fever—Epidemiology of rheumatic fever by J R. Paul. Rheumatic heart evaluation of active infection, by T D. Jones. Rheumatic heart disease, by C. McEwen. Bacterial endocarditis, by W. R. Mitchell. Cardiovascular syphilis, by J E. Moore and M. B. Treatment of cardiovascular syphilis, by J. H. Stokes and M. F. Falk. The heart in diseases of the endocrine glands, by D. P. Barr. The heart in hyperthyroidism, by H. M. Thomas, Jr. The heart in anemia, by W B. Porter The heart in pulmonary disease, by J. R. Vander by T M. Durant. Chronic valvular heart disease, by J. R. Vander

Vess. Cardiac hypertrophy and dilatation (cardiac failure), by H. Rossler. Congestive heart failure, by A. W Bronner Digitalis, by A. W Bronner. Effects of digitalis on the electrocardiogram, by T M. McMillan and S. Bellet. Pathogenesis and treatment of edema, by E. M. Landis. Left ventricular failure and paroxysmal cardiac dyspnea, by A. W Bronner The cardiac patient as a surgical risk, by S. A. Levine. The cardiovascular patient in pregnancy by B. E. Hamilton. Acute pericarditis, by W B. Porter Chronic constrictive pericarditis, by P D. White. Surgery of the heart and pericardium, by C. S. Beck. Normal blood pressure and its physiologic variations, by E. V Allen and E. A. Hines. Low arterial pressure, by J. H. Barach. Venous pressure, by H. G. Schlater Psychic factors in essential hypertension, by W R. Houston. Index. Volume 2, Arterial hypertension, by I. H. Page. Arterial hypertension, by K. J. Sitapalle. The cardiovascular system with relation to the kidneys, by J. M. Hayman, Jr. Capillary circulation, by A. C. DeGraff and A. M. Oakley. The diagnosis of coronary insufficiency by R. L. Levy Coronary disease including angina pectoris, by W D. Stroud and M. W Stroud. Relief of pain in angina pectoris, by F C. Grant. Nourishment of the heart by channels other than the coronary arteries, by S. Bellet. Disturbances of the heartbeat, by G. R. Herrmann. Use of quinidine in cardiac irregularities, by W J. Kerr and J. B. Logan. Cardiac neuroses, by L. A. Conner. Psychosomatic aspects of cardiovascular disease, by E. Weiss. Trauma of the heart, by H. Barber Shock, by N. E. Freeman. Physical therapy in cardiovascular disease, by C. R. Comstock and W D. Stroud. The rehabilitation of cardiac patients and their placement in industry by W D. Stroud and H. A. Rush. Term of the electrocardiogram, by F N. Wilson and F D. Johnston, Electrocardiography by S. Bellet and T M. McMillan. The ballistocardiogram, by I. Starr. Roentgenology of the heart and great vessels, by H. K. Ungerleider and R. S. Gubner. The heart in diphtheria and other conditions, by J. A. Wagner and J. E. Strang. Periarteritis nodosa, by R. Fitz. Thromboangiitis obliterans, by H. Montgomery Erythromelalgia (erythermalgia) of the extremities, by E. V Allen. Lymphedema of the extremities, by E. V Allen. Sudden embolism and thrombosis of arteries of the extremities, by E. V Allen Thrombophlebitis, by N. W Barker. Acquired arteriovenous fistula, temporal arteritis, and aneurysm, by E. A. Hines, Jr. Arteriosclerosis obliterans, by I. S. Wright. Raynaud' syndrome and acrocyanosis, by I. S Wright. Vascular anomalies, by G. de Takats. Varicose veins, by G. de Takats. Index.

Note: A comprehensive treatise made up of 64 monographic chapters authored and titled as noted above. Literature references are included in the chapters. One of the most useful changes apparent in the present edition is a new index which does justice to the contents of the two volumes.

Symposium on Hypertension

Hypertension a symposium held at the University of Minnesota on September 18 19 and 20 1950 in honor of Elexious T Bell Benjamin J Clawson and George E. Fahr Minneapolis University of Minnesota Press, 1951 573 p. illus. 24 cm. $7 50. 1136

Contents: Anatomical considerations of hypertension, by H. Goldblatt. Experimental studies on hypertension, by A. Grollman. Experimental hypertension in the rabbit, by G W Pickering. The renal angiotonin pressor system, by I H. Page The participation of hepatorenal factors in experimental renal hypertension, by E. Shorr Blood volume and extracellular fluid volume in experimental hypertension, by E. Braun-Menendez. The role of the adrenal cortex in the pathogenesis of experimental hypertension, by H. Selye. The mechanism of hypertension due to desoxycorticosterone, by E. Braun-Menendez Sympathic adrenal factors in hypertension, by M. Nickerson Experimental hypertension, by E. Braun-Menendez. The pathological anatomy in primary hypertension, by E. T Bell. Some observations on renal vascular disease in hypertensive patients based on biopsy material obtained at operation, by R. H. Smithwick and B. Castleman The mechanism of hypertension in chronic glomerulonephritis, by G. E Fahr Renal hemodynamics in essential hypertension, by H. Chasis The heart in essential hypertension, by B. J. Clawson. The adrenal cortex and hypertensive vascular disease, by G. A. Perera. Hypercortical factors in essential hypertension in man, by E. Shorr Pulmonary hypertension, by R. V Ebert A summary of experimental evidence relating life stress to the pathogenesis of essential hypertension in man, by S Wolf and H. G Wolff. Vascular reactivity and hypertensive disease, by E A Hines, Jr. Cerebral attacks in hypertension, by G W Pickering. The natural history of hypertensive vascular disease, by G A. Perera. Blood lipid transport in hypertensive patients and its relation to atherosclerotic complications, by J W Gofman. The hemodynamic effects of various types of therapy in hypertensive patients, by R. W Wilkins. Sympathetic blockade in the therapy of hypertension, by M. Nickerson. The effect of sympathectomy upon the mortality and survival rates of patients with hypertensive cardiovascular disease, by R. H. Smithwick. The management of hypertensive patients: observations on the pertinence of life situations, attitudes, and emotions to variations in the course of essential hypertension and to the occurrence of associated symptoms, by H. G. Wolff and S. Wolf. Recent experiences with the pharmacologic treatment of hypertension, by R. W Wilkins Some effects of the rice fruit diet on patients with essential hypertension, by C. B. Chapman. Pyrogens in the treatment of malignant hypertension, by I. H. Page and others. Bibliography

Note: A collection of original papers prepared for the occasion mentioned in the book's title. Many of the papers describe the results of recent investigations or describe concisely the current status of a recent development in which the author of the paper played a conspicuous part. Excerpts from the discussions of the papers at the meetings are included Bibliographies for each paper are collected at the end of the volume. There is no index.

White Paul Dudley

Heart disease. Fourth edition New York The Macmillan Company 1951 1015 p. Illus. (part col d) 24 cm. $12.00 1137

Contents (abridged) The evolution of our knowledge of the heart and its diseases. Part 1, Cardiovascular examination, symptoms and signs: The range of the normal heart. The patient's history and symptoms. Physical examination. Cardiovascular roentgenology The palpation of heart and blood vessels. Electrocardiography Part II, The significance, prevalence, causes, and types of heart disease The social and economic aspects of heart disease. Prevalence of heart disease and of its etiologic types. Congenital cardiovascular defects. Rheumatic heart disease, acute and chronic. Acute and subacute bacterial (infective) endocarditis. Cardiovascular syphilis. The heart in diphtheria, scarlet fever and tuberculosis and in other bacterial infections, infestations, and virus diseases. Hypertensive heart disease. Pulmonary heart disease. Coronary heart disease. Neurocirculatory asthenia. Part III, Structural cardiovascular abnormalities: Myocardial disease. Endocardial and valvular disease. Pericardial disease Vascular disease. Part IV Disorders of cardiovascular function. The circulation of the blood. Myocardial insufficiency Disorders of vascular function Disorders of cardiac rhythm. Atrial fibrillation and flutter Ventricular fibrillation and flutter Quinidine therapy Bradycardia and heart block—sinoatrial, atrioventricular intraventricular. Ventricular escape. Atrioventricular nodal rhythm. Wide QRS wave with short P-R interval. Sudden death. Subject index.

Note (1133) A well known standard treatise in which the subject is surveyed primarily from the clinical viewpoint Presentation is concise, but is adequately detailed for ordinary uses. The diseases included are discussed as to incidence, mechanism, etiology pathology symptoms, signs, course of prognosis, complications, treatment, differential diagnosis. In addition, extensive literature references are furnished Important and fairly extensive changes have been made in this edition. A number of parts have been compressed in order to make room for new material without lengthening the book In some instances, the accounts of new developments—for instance, ballistocardiography—are very brief but are supplemented by numerous references to the literature. The comprehensiveness of the work is indicated by the length of the index which runs to 12 columned pages.

Wright Irving Sherwood

Vascular diseases in clinical practice. Second edition. Chicago The Year Book Publishers, Inc. 1952 552 p. illus. 21 cm. (General practice manuals) $8 50. 1138

Contents (abridged) Classification of diseases and abnormalities of blood and lymph vessels of the extremities. Methods of study of the patient. Arteriosclerosis obliterans-atherosclerosis. Thromboangiitis obliterans. Ergotism. Raynaud' syndrome and related conditions. Essential polyangiitis (periarteritis nodosa; Kussmaul-Maier disease) Cranial arteritis (temporal arteritis) Lupus erythematosus disseminatus. Neurovascular syndromes of the shoulder girdle. Aneurysms. Arteriovenous anastomoses. Syndromes produced by temperature changes (excluding Raynaud' syndrome). Livedo reticularis (cutis marmorata) Erythema nodosum. Erythema induratum. Acrocyanosis. Erythermalgia (erythromelalgia) Acute arterial occlusion (arterial embolism—acute arterial thrombosis) Thrombophlebitis. Acute axillary or subclavian venous thrombosis. Dependency edema. Varicose veins Thrombocytic acrocyanosis. Tumors of the blood and lymph vessels. Industrial and medicolegal medicine—its relation to peripheral vascular disease and injury Amputation—psychologic and physical care. Appendix Method for determining plasma prothrombin. Index.

Note This book is addressed to graduate medical practitioners and is planned for use both as a guide and reference manual in diagnosis and treatment. The author states that it is intended as

supplement to existing volumes on heart disease and not as a full-scale treatise. Study of the whole patient in order to get the correct clinical picture is emphasized and the author includes suggested form for history taking. The style of presentation is concise. Selected literature references are appended to the chapters. There are 114 figures.

DERMATOLOGY

BAER, KARL AMADEUS

Pathology and physiology of burns 1942–1951 an annotated bibliography Washington, D C. Armed Forces Medical Library Reference Division 1952 107 p. 20 cm. 1139

Contents. Body fluids and electrolytes. Bones and cartilages. Cardiovascular system. Classification and standardization. Death (mechanisms, rates) Endocrine system. Gastrointestinal tract. General and review articles. Infection and bacteriology Kidneys. Legal aspects. Liver Muscles. Nervous system. Nitrogen balance. Respiratory system. Skin. Spleen. Systemic effects (including shock) Author index.

Note An annotated bibliography of the international literature published since 1942. It is limited to literature bearing on the physiology and pathology of burns.

LEVER WALTER F

Histopathology of the skin. With 221 illustrations, including 8 subjects in color on 4 plates. Philadelphia J B Lippincott Company 1949 449 p illus (part col d) 24 cm. $10 00 1140

Contents. Introduction. Embryology of the skin. Histology of the skin. Laboratory methods. Morphology of the mesodermal cells. Congenital diseases (Genodermatoses) Noninfectious inflammatory diseases. Eruptions due to drugs. Degenerative diseases. Bacterial diseases Spirochetal diseases. Fungous diseases. Diseases caused by protozoa. Diseases caused by viruses Metabolic diseases. Systemic diseases of unknown cause. Epidermal tumors. Mesodermal tumors. Melanomas Lymphoma and mycosis. Index.

Note A book of primary interest to dermatologists. The background embryology histology and laboratory technology are briefly covered in preliminary chapters, but most of the space is given to the pathology of skin diseases. Both gross and microscopic clinical features are described, but considerable part of the text and most of the illustrations deal with microscopic pathology The book was developed in courses given by the author in Harvard Medical School to graduate students. Extensive literature references are included. The illustrations are of excellent quality

LEWIS GEORGE MORRIS

Practical dermatology for medical students and general practitioners. Philadelphia W B Saunders Company 1952 328 p illus. 25 cm. $7.50 1141

Contents Diagnostic methods Acne and the seborrheic dermatoses. Pruritus (symptomatic and essential psychogenic implications) The eczematous dermatoses. Urticaria, "toxic" erythemas, and drug eruptions. The so-called collagen diseases The chronic vesiculo-bullous disorders. The vascular papulo-squamous diseases. The pyodermas. Fungus infections Tuberculosis and allied disorders. Syphilis Virus and other infections Diseases due to animal parasites. Hyperpigmentation depigmentation atrophy Congenital (nevoid) anomalies. Disorders of the mucous membranes Diseases of the nails and hair Diseases due to physical agents The skin and other organs. Benign tumors Metabolic disorders Premalignant and malignant tumors, including lymphoblastoma Dermatologic therapy Dermatologic formulary Bibliography Index

Note Ninety-nine plates, each made up of from one to six reproductions of original photographs, are special feature of this concise guide. The textual descriptions cover symptoms, etiology diagnosis, and treatment, with occasional variations in form. Lists of tests, terms, and formulary of common medications plus bibliography of general texts and special monographs round out the usefulness of the book in the general practitioner' library The author is Professor of Clinical Medicine (Dermatology) in Cornell University Medical College.

PECK, SAMUEL MORTIMOR, AND GEORGE KLEIN

Therapy of dermatologic disorders including a guide to diagnosis and a dermatologic pharmacopeia. Philadelphia Lea & Febiger 1951 383 p. illus. 24 cm. $6.50. 1142

Contents (abridged) Part I, Guide to diagnosis. Part II, Classification and treatment of the various skin disorders: The broad principles underlying dermatologic therapy Physical therapy in dermatology Diagnosis and treatment of venereal diseases, by W Leifer. Part III, Dermatologic pharmacopeia; Removal of medical stains. Index.

Note: A compact reference book for the office libraries of medical practitioners. It covers the most common skin diseases in regard to their etiology clinical characteristics, and treatment. Much of the specific data on diagnosis is organized in 10-page table entitled "Differential diagnosis of the most common skin diseases. The pharmacopeia section contains an alphabetically arranged list of drugs and of selected proprietary compounds which are useful in dermatologic therapy In each instance the drug is described in chemical and physical terms and its usage and dosage are stated. According to the authors, the contents of the book have been selected on the basis of their own experience. The first-named author is member of the faculty of the College of Physicians and Surgeons of Columbia University the second-named, a member of the faculty of New York Medical College.

SULZBERGER, MARION B , AND JACK WOLF

Dermatology essentials of diagnosis and treatment. Chicago The Year Book Publishers Inc., 1952 592 p. illus. 22 cm. $10.00. 1143

Contents General dermatologic management. Eczematous dermatoses. Urticaria—giant hives. Atopic dermatitis. Dermatoses due to fungi. Acne vulgaris and other acneform dermatoses. Pyodermas. Sulfonamides—calciferol—cortisone-ACTH. Psoriasis and seborrheic dermatitis. Bullous and vesicular dermatoses. Zoonoses (diseases due to animal parasites) Common tumors of the skin. Miscellaneous dermatoses. Drug eruptions. Miscellaneous skin disorders. Early syphilis. Other forms of syphilis. Index.

Note. (947*) A revision of the author's well known *Dermatologic therapy in general practice*, of which the third edition appeared in 1948. Although it bears new title, the purpose of the work is unchanged and its content has been changed only to the extent necessary to bring it abreast of new developments. Most of the revised material pertains to the newer antibiotics, ACTH-cortisone, etc. Chapter eight, for instance, has been completely rewritten. Although "sulfonamides" still appears in its title, the authors state in its text that except in the rarest of exceptional circumstances, the topical application of sulfonamides no longer has place in dermatologic therapy The book remains an introduction for medical college students and reference book for general practitioners of medicine.

SUTTON RICHARD LIGHTBURN AND RICHARD L SUTTON, JR.

Handbook of the diseases of the skin. With 1057 illustrations St. Louis The C. V Mosby Company 1949 749 p. illus. 24 cm $13.50. 1144

Contents: Anatomy Embryology Physiology Symptomatology and pathology Etiology Diagnosis. Treatment. Dermatoses due to physical agents. Dermatoses due to chemical agents. Dermatoses due to bacteria. Dermatoses due to rickettsiae. Dermatoses due to animals. Dermatoses due to fungi. Dermatoses due to animals. Dermatoses of vascular origin. Dermatoses of metabolic disturbances. Dermatoses of neurologic and psychogenic origin. Dermatoses of unknown cause. Dermatoses of purpura and vascular gangrene. Dermatitides of unknown cause. Dermatoses characterized by atrophy Dermatoses of mentary disorder Dermatoses characterized by atrophy Diseases particularly manifestations of malformation and neoplasia. Diseases of mucous adjacent affecting the cutaneous appendages. Diseases of the skin. Index.

Note A compact but comprehensive manual in which the authors have covered not only common diseases but also "have held to the policy of at least mentioning almost everything." The chapters are printed in two sizes of type, with those matters of lesser importance covered in the smaller type. The preliminary chapters on anatomy physiology diagnosis, etc., run to only 62 pages; the

remainder of the book is devoted to descriptions of specific diseases. Generally speaking, symptoms, etiology, pathology, diagnosis, and treatment are covered for each disease. Thousands of literature references are embedded in the text.

TOBIAS NORMAN

Essentials of dermatology Fourth edition. 186 figures, 6 subjects in color on 3 plates. Philadelphia J B Lippincott Company 1952 596 p. illus. (part col d) 20 cm. $6.00 1145

Contents: Basic survey The erythema group. The eczema group. Drug eruptions. Psoriasis. The toxic bullous diseases. The pyodermas. Diseases due to vegetable parasites. Diseases due to animal parasites. Diseases due to filtrable viruses. Diseases due to psychosomatic and nerve disorders. Lichen planus. Diseases due to physical agents. The deep infective dermatoses. Tuberculosis of the skin. Syphilis. Benign tumors of the skin. Malignant growths of the skin. The metabolic dermatoses. The atrophies of the skin. Scleroderma and allied diseases. The vascular diseases of the skin. Pigmentations. The cutaneous lymphoblastomas. The erythrodermas. Diseases of the hair and the scalp. Diseases of the sebaceous glands. Diseases of the sweat glands. Diseases of the nails. Diseases of the mucous membranes. Congenital disorders. Dermatologic therapeutics. Eruptions of the hands. Index.

Note: (2200) An established survey and reference volume addressed especially to general practitioners of medicine and medical college students. Most of the space is devoted to descriptions of specific diseases, organized in groups as the chapter titles show. The individual diseases are discussed as to etiology pathology diagnosis, and treatment. Histology is not covered. The third edition was published in 1948. In preparing this edition important revisions were made in most of the chapters. Short descriptions of the testing of the various groups of diseases were added.

YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY

The 1951 year book *of* dermatology *and* syphilology (December 1950–November 1951) Edited by Marion B Sulzberger and Rudolf L. Baer Chicago The Year Book Publishers, Inc. 1952 476 p. illus. 20 cm. $5.50 1146

Contents: Some common errors in the management of skin diseases. Treatment and prevention (exclusive of venereal diseases) X-ray and other physical therapy Eczematous dermatitis and urticaria (allergic and nonallergic)—allergy Drug eruptions (allergic and nonallergic) Miscellaneous heterogeneous dermatoses. Other dermatoses. Cancer—precancerous—other tumors Fungous infections. Other infections—infestations Venereal diseases and their treatment. Investigative studies. Miscellaneous. Index. Index to authors.

Note (990*) The progress of dermatology and syphilology is summarized annually in this illustrated digest of the international periodical literature of these specialties. The period covered in the volume at hand is indicated in the title. The significant articles are selected and are abstracted in fair length. In all cases reference to the original publication is given and in many instances the abstract is supplemented by short comment written by the editor In this issue there are 61 figures. As in the previous years, the index is fully detailed.

OTOLARYNGOLOGY

BOIES LAWRENCE RANDALL AND OTHERS

Fundamentals of otolaryngology a text book of ear nose and throat diseases. By Lawrence R. Boies and associates Charles E. Connor Anderson C Hilding, Jerome A. Hilger John J Hochfilzer Conrad J Holmberg, Kenneth A. Phelps, Robert E. Priest, and George M. Tangen. Philadelphia W B Saunders Company 1949 443 p. illus. 24 cm. $6 75 1147

Contents (abridged) Part I, The ear Applied anatomy and physiology of the ear Examination of the ear. Diseases of the external ear and external auditory canal. Acute otitis media. Chronic suppurative otitis media. Tinnitus. Vertigo. Hearing aids and speech (lip) reading. Part II, The nose: Applied anatomy and physiology of the nose. Examination of the nose. The common cold. Nasal allergy Chronic nasal obstruction. Acute and chronic sinus disease. Complications of sinusitis. Headache and neuralgia of nasal origin. Epistaxis. Atrophic rhinitis. Injuries to the nose. Part III, The throat: Applied anatomy and physiology of the throat. Diseases of the nasopharynx. Acute and chronic sore throat. Tonsils and adenoids. Hoarseness. Laryngeal obstruction. Dysphagia due to disorders of the esophagus. Foreign bodies in the air and food passages. Tumors of the nose and throat. Prescriptions and therapeutic procedures. Index.

Note: A textbook for use in undergraduate courses in medical schools and an office manual for general practitioners of medicine. It is limited to diagnosis, treatment, and related aspects that especially concern the practicing physician. Literature references are furnished with the chapters. There are 184 illustrations, considerable number of which depict operative techniques. The author is member of the faculty of the University of Minnesota Medical School.

HANSEL FRENCH KELLER

Allergy in relation to otolaryngology An official publication of the American College of Allergists. Saint Paul Bruce Publishing Company 1949 77 p. illus. 20 cm. $2.50. 1148

Contents. Introduction. Allergy in relation to otolaryngology Panel discussion by L. B. Goldman, K. L. Craft, G. F. Knight, M. M Kafka, W E. Owen, H. A. Kuhn, J Glaser J H. Mitchell, and H. A. Abramson. Questions and answers following panel discussion.

Note The title article occupies the first thirty-one pages of this short book and the panel discussion occupies most of the remainder. The two parts together constitute an informal but authoritative statement of current United States of America medical thought and technique on allergy in disorders of the nose and throat.

HOLLENDER, ABRAHAM RISKL

Office treatment of the nose throat & ear Third edition. Chicago The Year Book Publishers, Inc., 1950 620 p. illus. 21 cm. (The general practice manuals) $7 50 1149

Contents (abridged) Section One, Part I, General survey: Evaluation of office treatment of nose, throat and ear diseases. Immunization. Endocrine therapy Nutritional management. Pharmacotherapy Physical therapeutic procedures. Office surgery Radiotherapy Psychosomatic approach to otolaryngology Section Two, Part II, Diseases of the nose. Part III, Diseases of the paranasal sinuses. Part IV Diseases of the mouth and pharynx. Part Diseases of the larynx. Part VI, Diseases of the ear Part VII, Neurologic disorders. Index.

Note (844*) A widely used manual of the techniques of otolaryngology which can be carried out in practitioners' offices as distinguished from those which must be carried out in fully equipped hospitals. The style of presentation is compact and rather wide range of conditions is covered. As the author points out office treatment now comprises the larger part of the management of ear, nose and throat diseases. Most of the therapies included are physical such as the uses of diathermy but there is chapter on minor surgical operations. The second edition was published in 1946. This edition not only longer by some 70 pages, but substantial sections of text that were included in the second edition have been deleted or extensively rewritten.

LEDERER FRANCIS LOEFFLER

Diseases of the ear nose, and throat. Principles and practice of otorhinolaryngology Clinical technics and procedures. Sixth edition With 979 illustrations, 20 in color Philadelphia F A. Davis Company 1952 1430 p. illus. (part col d) 27 cm. $20.00. 1150

Contents (abridged) Section I, The ear Anatomy of the ear. Examination and functional tests of the ear. Diseases of the external ear. Diseases of the tympanic membrane and middle ear Chronic suppurative middle ear disease. Neoplasms of the middle and inner ear. Diseases of the mastoid region. Labyrinthitis. Diseases of the

internal ear. Temporal bone fractures. Section 3, The nose and paranasal sinuses: Diseases of the external nose. Chronic forms of rhinitis. Diseases of the nasal septum. Sinus disease. Naso-orbital infections. Section 3 The mouth and pharynx: Infections and infectious diseases of the mouth. Diseases of the tongue. Acute diseases of the pharynx. Chronic pharyngitis. Neuroses and paralyses of the pharynx. Section 4, The larynx, trachea, bronchi and esophagus: Diseases of the larynx. Obstructive conditions of the larynx. Chronic forms of laryngeal disease. Tumors of the larynx. Surgery of the larynx and trachea. The trachea and bronchi. The esophagus. Section 5 General and correlated considerations: Progress in otolaryngology Diagnostic and therapeutic facilities. Neuralgias of the head and neck. Allergy Disorders of speech and voice. Ophthalmological aspects. Roentgenography of the head. Oncologic relations to otolaryngology Index.

Note. (1308) A comprehensive work suited to the needs of specialists and graduate medical college students preparing for specialization in otorhinolaryngology Background information such as anatomy and physiology are covered very concisely Almost all of the space is given to descriptions of diseases and to related matters, such as roentgenography, which are of interest to the specialist. Specific diseases are fully discussed and the textual discussion is supplemented by a variety of illustrations of good quality The length of the work and its scope have been very substantially increased in the present edition in order to maintain its purpose as an encyclopedic treatment. Literature references are not included.

PALMER, EDDY D

The esophagus and its diseases. Illustrations by Phyllis Anderson. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1952 553 p. illus. (part col d) 24 cm. $15 00. 1151

Contents: Anatomy Clinical physiology Congenital atresias and fistulas. Diverticulosis. Diaphragmatic hernias. Achalasia and cardiospasm. Other mechanical disturbances. Foreign bodies. Ruptures and perforations Esophagitides. The esophagus in acute infectious diseases. Tuberculosis. Syphilis. Mycoses. Animal parasites. Esophagitis due to corrosive agents. Ulcers. Strictures and webs. Benign epithelial tumors. Carcinoma. Benign nonepithelial tumors and cysts. Sarcomas. Varices and hemorrhage. Allergy drug damage; the endocrinopathies. Diffuse collagen diseases. Deficiency diseases. Extrinsic disease. Index.

Note. The disorders of the esophagus are covered comprehensively in this work. The chapter titles indicate the wide scope. Diseases and their treatment are discussed fully and many illustrative cases are described. The text is based on a survey of the international literature, including the author's own writings. There are 93 illustrations. The author is Chief of the Gastrointestinal Section of Walter Reed Hospital of the United States Army Medical Center.

PARKINSON ROY HARVEY

Tonsil and allied problems. New York The Macmillan Company 1951 432 p. illus. 26 cm. $12 00 1152

Contents. The normal tonsil and tonsil fossa. Muscles of the pharynx and eustachian tube. Potential spaces around the tonsil. Nasopharynx, adenoid, lingual tonsil, and other allied lymphatic structures. Carotid arterial system. Veins draining the tonsil region. Nerve supply of tonsil and allied structures. Lymphatic drainage of the tonsil. Histology of the tonsil and allied structures. Embryology and postnatal cycles of the tonsil. Physiology of the tonsil. Acute inflammatory diseases of the tonsil. Chronic inflammatory diseases of the tonsils. Tumors involving the tonsil and adenoid regions. Miscellaneous conditions involving the tonsils. Indications and contraindications for tonsillectomy Technique of tonsillectomy Complications following tonsillectomy Index.

Note A comprehensive study of a small part of the body that is responsible, according to one authority for one third of all operations performed on the urban population of the United States of America. Currently employed surgical techniques are fully described, but there is no special emphasis on this phase of the subject. Equal emphasis is given to diagnosis, and the discussions of the circulatory system, nerve supply histology etc., are as full as the subject requires. There are 210 figures and a bibliography of 82 references.

VAN ALYEA, OLIVER EDMOND

Nasal sinuses an anatomic and clinical consideration. Second edition. Baltimore The Williams & Wilkins Company 1951 327 p. illus. (part col d) 23 cm. $9 00 1153

Contents: Histopathology Nasal physiology Acute nasal infection. Maxillary sinus. Frontal sinus. Ethmoid sinus. Sphenoid sinus. Sinus disease in children. Allergy Tumors. Complications. Relation of sinuses to other conditions. General therapeutic measures. Subject index. Author index.

Note. (1313) A detailed treatise of interest to advanced medical students, general practitioners, and specialists in rhinology It is based both on the author's own studies and clinical observations and on the pertinent literature. In the present edition it has been widely revised. The chapter on allergy is new Tumors are discussed at greater length and the discussion of therapeutic matters and measures has been revised to include the antibiotics and other important advances. Each of the chapters is now accompanied by revised selected references. There are 143 figures.

WILLIAMS, HENRY L

Ménière's disease. Springfield, Ill. Charles C Thomas, 1952 349 p. illus. 22 cm. (American lecture series. Publication no. 129 A monograph in The Bannerstone Division of American lectures in otolaryngology audiology and broncho-esophagology, edited by Norton Canfield) $7 00 1154

Contents: Ménière's description and some misconceptions. Anatomy and physiology of the labyrinth. Histopathology and physiopathology. Etiology vertiginous crisis and loss of hearing. Diagnosis and differential diagnosis. Fundamental identity of allergy and autonomic dysfunction. Medical treatment. Surgical treatment. Recapitulation and conclusions. Index.

Note: A comprehensive critical monograph on the ear disease named after Prosper Ménière. In the first chapter the author compares Ménière's original papers with the misconceptions that have grown up about the syndrome. In the succeeding chapters he covers the basic anatomy physiology and pathology then goes on to present a critical survey of contemporary diagnosis and treatment, based partly on the literature and partly on his own experience. Selected bibliographies are included in the chapters. The author is Head of the Section on Otolaryngology and Rhinology of the Mayo Clinic.

YEAR BOOK OF THE EYE, NOSE AND THROAT

The 1951 year book *of the* eye, ear nose *and* throat (October, 1950–September 1951) The eye edited by Derrick Vail. The ear, nose and throat edited by John R. Lindsay Chicago The Year Book Publishers, Inc., 1952 456 p. illus. 20 cm. $5 50 1155

Contents. The eye: The eyelids and lacrimal apparatus. The orbit and exophthalmos. The conjunctiva. The cornea. The lens and cataract. The iris, ciliary body and choroid. The optic nerve. The retina. Neurology and visual fields. Glaucoma. Refraction and motility Surgery Therapy Miscellaneous. The ear: Hearing and hearing tests. Vertigo, deafness and Ménière's disease. Tubal function and otitis media. Otosclerosis and fenestration. Miscellaneous. The nose and throat. The nose and sinuses. The oropharynx and nasopharynx. Plastic procedures. The larynx and hypopharynx. Trachea, bronchi and esophagus. Allergy Miscellaneous. Index. Index to authors.

Note (999*) An illustrated annual review of the world wide developments in these specialties. It is similar in scope and arrangement to the other volumes in the series. The more significant articles which appeared in periodicals throughout the world during the period indicated in the title are represented by abstracts of fair length. Some of the abstracts are supplemented by brief editorial notes in which the editor criticizes the findings of the author or relates them to other studies in the same area. There are 131 figures in this issue.

GASTROINTESTINAL DISEASES

BACON HARRY ELLICOTT

Anus, rectum, sigmoid colon diagnosis and treatment. Third edition. Philadelphia. J B. Lippincott Company 1949 2 vol. illus. (part col d) 26 cm. $30.00 1156

Contents (abridged) Volume 1: Anatomic considerations. Examination and diagnosis. Malformations of the anus and rectum—megacolon—Hirschsprung's disease—megarectum. Fissure in ano. Anorectal

stenoses. Fistula. Pruritus ani. Proctitis and sigmoiditis. Diverticulosis and diverticulitis of the sigmoid. Lymphogranuloma venereum. Venereal disease of anus and rectum. Tuberculosis of anus, rectum and sigmoid colon. Hemorrhoids. Prolapse and procidentia. Volume II: Malignancy of the anus, rectum, and sigmoid colon. Treatment of malignant tumors. Volvulus of the sigmoid colon. Foreign bodies in the rectum. Anesthesia and analgesia. Preoperative and postoperative treatment of patients undergoing major surgical procedures. Bibliographic index. Subject index.

Note (3316) An outstanding work used both as a text for instruction in medical schools and as a reference book by general practitioners and specialists. The latter group of readers will be interested in such portions as the author's evaluation of abdominoperineal proctosigmoidectomy without colostomy. Throughout the book the applicable therapies, including both surgical and nonsurgical, are described. Also palliative measures are discussed. The illustrations, of which there are well over 1000 in this edition, are an outstanding feature. The significant related literature is carefully cited and the names of the authors of the listed papers have been assembled in the bibliographic index. The second edition was published in 1941. In preparing this very thorough revision many hundreds of pages of text were added and the number of illustrations was greatly increased. The author is Head of the Department of Proctology of Temple University Medical School and Hospital.

BARGEN JACOB ARNOLD

Chronic ulcerative colitis (thrombo-ulcerative colitis) Springfield Illinois Charles C Thomas 1951 62 p illus. 22 cm. (American lecture series. Publication no. 101 A monograph in American lectures on abdominal viscera, edited by Lester R Dragstedt.) $2.25 1157

Contents Introduction. Pathologic changes. Diagnosis. Complications. Treatment. Summary and conclusions. References.

Note. In this monograph on a single intestinal disease each phase of the disease from diagnosis through final treatment is carefully explained in terms of the author's general and clinical experience. The chapter on treatment includes medical and surgical therapies and includes three illustrations of a skin-grafted ileostomy constructed according to Dragstedt's technique. The author is a member of the Mayo Clinic staff.

BENEDICT EDWARD BENSON

Endoscopy as related to diseases of the bronchus esophagus, stomach, and peritoneal cavity Baltimore The Williams & Wilkins Company 1951 373 p. illus. (part col d) 24 cm. $10.00 1158

Contents (*abridged*) History of endoscopy Part I, Bronchoscopy: Anatomy and physiology of the tracheobronchial tree. Technic. Indications, contraindications and complications. Bronchial obstructions. Specific infectious diseases. Foreign bodies in the tracheobronchial tree. Bronchogenic carcinoma. Metastatic malignant disease of the bronchus. Tumors of the trachea. Part II, Esophagoscopy Anatomy and physiology of the esophagus. Technic. Indications, contraindications and complications. Esophagitis. Hiatus hernia. Esophageal ulcer. Benign stricture. Lye stricture. Web. Achalasia (cardiospasm). Diverticulum. Varices. Benign tumor. Carcinoma. Foreign bodies in the esophagus. Extrinsic pressure. Trauma. Bronchoesophageal and tracheoesophageal fistula. Specific infectious diseases. Miscellaneous conditions affecting the esophagus. Paralytic dysphagia. Functional disorders of swallowing. Part III, Gastroscopy: Anatomy, physiology and gastroscopic appearance of normal stomach. Technic. Indications, contraindications and complications. Gastritis. Gastric ulcer. Benign tumor. Carcinoma. Other malignant tumors involving the stomach. Specific infectious diseases. Miscellaneous conditions affecting the stomach. Part IV, Peritoneoscopy. History, technic and indications. Evaluation of the method and analyses of results. Endoscopic photography. Index.

Note. The fitting of endoscopic techniques into the whole picture of diagnosis and treatment is an outstanding feature of this authoritative work. The chapter on bronchogenic carcinoma—to take an example—is organized under the following subheadings: definition, occurrence, etiology, pathology, symptomatology, diagnosis, differential diagnosis, bronchoscopy, bronchoscopic determination of operability, exploratory thoracotomy, cytologic study, treatment, prognosis, and literature references. Endoscopic techniques are correlated with other diagnostic techniques, especially radiography. Discussions of case histories are included in most of the chapters. There are [illegible] illustrations in color and 127 in black and white. The author is Endoscopist of the Massachusetts General Hospital and a member of the faculty of Harvard Medical School.

CANTOR ALFRED JOSEPH

Ambulatory proctology With a foreword by Beaumont S. Cornell. Second edition, revised. With 382 illustrations. New York Paul B Hoeber Inc., 1952 563 p illus. 24 cm. $10.00. 1159

Contents: Clinical anatomy. Diagnosis. Anesthesia, analgesia, hemostatic agents. Preoperative and postoperative management. Sulfonamide and antibiotic therapy. Surgery by electric current or thermal cutting unit. Pediatric proctology. Pruritus ani. Cryptitis and papillitis. Anorectal fistula. Perianal and perirectal abscesses and infections. Anal ulcer. Hemorrhoids. Prolapse and procidentia. Diarrhea—diagnostic methods and general therapy. Enterocolitis and colitis. Ulcerative colitis. Bacillary dysentery. Tuberculosis. Lymphogranuloma venereum. Venereal diseases. Intestinal parasites. Constipation. Mucous colitis. Diverticulosis and diverticulitis. Benign tumors. Multiple adenomas. Malignant neoplasms. Pilonidal disease, sinus, cyst, and abscess. Coccygodynia. Rectal stricture and anal stenosis. Anal incontinence. Foreign bodies and rectal trauma. Index.

Note (1001) By "ambulatory proctology" the author designates the diagnosis and treatment of diseases of the anus, rectum, and sigmoid bowel by techniques which do not confine the patient to bed. The text is divided about equally between conditions which can be treated by surgical methods in the doctor's office and conditions which can be treated medically. Also there is considerable material on conditions which can be diagnosed in the office, but require hospitalization for treatment. The book is addressed particularly to general practitioners of medicine. Two new chapters and other important additions have been made in this edition. Also recent literature has been added to the bibliographies and there are many new illustrations.

CANTOR MEYER O

Intestinal intubation Springfield, Illinois Charles C Thomas, 1949 333 p illus. 24 cm. $7.50 1160

Contents: Introduction. The history of the invention and development of the gastro-intestinal tubes. Normal anatomy of the gastro-intestinal tract as related to intubation. Intestinal physiology as related to intestinal intubation. Distention in the gastro-intestinal tract. Intestinal decompression tubes in use today. Technic of intestinal intubation. Role of mercury in intestinal decompression tubes. Disorders of the small bowel requiring intubation. Intestinal intubation in lesions of the colon. Errors and safeguards in the use of intestinal decompression tubes. Nursing care of patient with intestinal intubation. Types of suction and methods of use. Responsibility of the surgeon in the use of intestinal intubation. The role of the roentgenologist in patients to be intubated. Intubation in infancy and childhood. Effect of intestinal gases upon balloons of intestinal decompression tubes, by E. E. Phelps and others. Effect of hydrogen sulphide gas upon the balloons of intestinal decompression tubes. Reference bibliography. Author index. Subject index.

Note. A comprehensive presentation of a major technique in the treatment of intestinal distention, written by the inventor of the Cantor tube. Most of the space is devoted to matters pertaining to the use of gastro-intestinal tubes, but the history and other background aspects are also fully covered. There are [illegible] illustrations and extensive bibliographies. The book is of interest to nurses as well as to surgeons, roentgenologists, and specialists in gastroenterology.

CHENEY GARNETT

Medical management of gastrointestinal disorders. Chicago The Year Book Publishers, Inc., 1950. 478 p. illus. 21 cm. $7.00. 1161

Contents (*abridged*) Part I, The patient approach: Examination of the patient. Clinical laboratory procedures. Endoscopic and biopsy examinations. X-ray examination. Part II, Symptoms diagnosis and treatment. Sore mouth and tongue. Loss of appetite. Dysphagia and substernal distress. Indigestion, belching of gas and heartburn. Nausea and vomiting. Hematemesis. Management of the peptic ulcer problem. Severe abdominal pain and colic. Management of liver disease. Management of gallbladder and bile duct disease. Lower abdominal distress and anorexia. Abdominal distention. Abdominal tumors.

Contents: Adrenolescence, by G. A. Pincus. Recent knowledge on the nature of hypophyseal adrenocorticotropic hormone (ACTH), by C. H. Li. Serum cholesterol—a probable precursor of adrenal cortical hormones, by J W Cook and others. Factors regulating the adrenal cortical secretion, by C. N. H. Long. Physiological regulation of the zona glomerulosa of the rat's adrenal cortex, as revealed by cytochemical observations, by H. W Deane. On certain factors conditioning the action of the pituitary-adrenal system, by F R. Skelton. Control of regeneration of the adrenal cortex in the rat, by D. J. Ingle. Experimental adrenal cortical tumors, by G. W Woolley. Studies on the site and mode of action of the adrenal cortex in protein catabolism, by F L. Engel. The protective role of adrenal cortical secretion in the hypersensitive state, by T F Dougherty. Modification of body structure by adrenocortical secretions with special reference to the regulation of growth, by B. L. Baker. Preliminary observations on the relation of adrenal cortex to electrolyte metabolism in the rat, by R. O. Greep. The adrenal cortex in water metabolism, by R. Gaunt and others. Does methyl testosterone modify the effects of adrenocorticotropic hormone (ACTH) and of desoxycorticosterone glucoside (DOCG)? by F C. Bartter and others. Evaluation of the metabolic effects of peptide mixture derived from pure adrenocorticotropic hormone, by L. W Kinsell and others. Observations on the metabolic effects of cortisone and ACTH in man, by R. G. Sprague and M. H. Power. The response of neoplastic lymphoid tissue to increased adrenal cortical function, by O. H. Pearson and others. Adrenal function in the newborn, by E. H. Venning. Steroid excretion and adrenal function in neoplastic disease, by K. Dobriner and others. Isolation of adrenal cortical hormones from urine, by H. L. Mason. Adrenal cortex in hypertension, by A. C. Corcoran. The adrenal cortex in diabetes mellitus, by E. S. Gordon. Pituitary-adrenocortical function in patients with severe personality disturbances, by H. Hoagland.

Note: A collection of papers presented at the symposium named in the book's title. The typical paper is compact summary of recent research correlated with the results of other investigations reported in the literature, and it is supplemented by list of references.

AMERICAN RHEUMATISM ASSOCIATION

Rheumatic diseases. Based on the proceed ings of the seventh International Congress on Rheumatic Diseases. Prepared by the Com mittee on Publications of the American Rheumatism Association. Charles H. Slocumb chairman. Philadelphia W B Saunders Company, 1952 449 p. Illus. 25 cm. $12 00. 1171

Contents (abridged) General information about rheumatic diseases. Rheumatic fever. Rheumatoid arthritis. Atypical rheumatoid arthritis. Rheumatoid spondylitis. Reflex dystrophy. Fibrositis and psychogenic rheumatism. Osteoarthritis. Effects of endocrine secretions. Gold salts and copper salts. Orthopedic and physical treatment and study. Specific infectious arthritis. Gout. Scleroderma. Pathology of rheumatic diseases. Physiologic aspects of rheumatic diseases. Investigative studies of immune reactions, antigens and enzymes. Studies on blood plasma and amino acids. Studies of connective tissue. Experimental arthritis. Subject index. Author index.

Note. A collection of about 85 papers that were originally presented at the congress named in the title of the book. The majority of authors are U S A. physicians or teachers in medical colleges, but there is also considerable number of contributors from other countries. The typical paper is short and is accompanied by literature references. In some instances an excerpt of the discussions at the congress is included. The volume is of interest primarily to medical practitioners, both general and specialists. However some of the papers are of interest to research workers in pharmacology

BARACH JOSEPH H

Food and facts for the diabetic. New York Oxford University Press, 1949 113 p. Illus. 24 cm. $4 00 1172

Contents: Clinical manifestations of diabetes. Laboratory diagnosis. Planned treatment. Principles of diet in health and diabetes. Caloric values of foods. Quantities as in the measured diet. Insulin. Complications in the use of insulin. Causes of high blood and urine sugars and their control. Hygiene—a way of life for the diabetic. Complications in diabetes. Diabetic coma and its treatment. Prevention of diabetes and its complications. Diabetes in children. Diet section. Index. Index to adequate maintenance diets.

Note: A manual of information for patients rather than physicians. Aspects of diabetic treatment for which the patient is primarily responsible are discussed at some length. The self-administration of insulin is fully described. Included in the book but not counted in the paging is long section of daily menus or diets. The author is member of the faculty of the School of Medicine of the University of Pittsburgh.

BLOTNER, HARRY

Diabetes insipidus. Edited by Henry A. Christian. (Reprinted from Oxford loose-leaf medicine with the same page numbers as in that work) New York Oxford University Press 1951 Illus. 24 cm. $4.50. 1173

Contents (abridged): History Anatomy of pituitary gland and associated structures. Physiology Pathology Etiology Incidence. Symptoms. Physical examination. Laboratory studies. Diabetes insipidus associated with other conditions. Diagnosis. Treatment. Bibliography

Note: A short treatise written primarily for general practitioners of medicine. The author points out that diabetes insipidus is rarely encountered but that it is fascinating disease because of its relationship to endocrinology and the ease with which it may be diagnosed and treated. Treatment with extracts of posterior pituitary is described at length, since it is the chief method, but other methods are described also. There is bibliography of 470 references.

CRILE, GEORGE, JR.

Practical aspects of thyroid disease. Philadelphia W B Saunders Company 1950. 355 p. illus. 20 cm. $6.50 1174

Contents. Physiology of the thyroid. Pathology of endemic goiter. The prevention and treatment of endemic goiter. Intrathoracic goiter. Clinical and pathologic aspects of hyperthyroidism. Diagnosis of hyperthyroidism. Iodine in the treatment of hyperthyroidism. Antithyroid drugs in treatment of hyperthyroidism. Roentgenotherapy and radioactive iodine in the treatment of hyperthyroidism. Preoperative management of hyperthyroidism. Anesthesia for thyroidectomy Anatomy of the thyroid. Technic of thyroidectomy. Results of thyroidectomy and evaluation of technic. Complications during thyroidectomy. Postoperative care. Postoperative complications. Recurrent hyperthyroidism. Hyperthyroidism in extremes of life. Diseases associated with hyperthyroidism. Congenital abnormalities of the thyroid and thyroglossal tract. Classification of malignant tumors of the thyroid. Incidence of carcinoma of the thyroid. Papillary carcinoma of the thyroid. Nonpapillary carcinoma of the thyroid. Nonencapsulated sclerosing tumor of the thyroid. Thyroiditis. Conclusions. Index.

Note An inclusive presentation of current techniques in the diagnosis and treatment of thyroid disorders. Treatment by means of antithyroid drugs, radioactive iodine, and roentgenotherapy is covered as well as surgical treatment. The work is addressed both to specialists in internal medicine and to surgeons, and its purpose is to inform practitioners in both these branches of medicine of newly developed techniques. Selected references are appended to the chapters and there are 101 black-and-white figures.

DECOURCY JOSEPH LUKE, AND CORNELIUS B DECOURCY

Pathology and surgery of thyroid disease. Springfield, Illinois Charles C Thomas, 1949 476 p. illus. 26 cm. $10.50. 1175

Contents. Preview—surgical aspects of thyroid disease. Historical aspects of the thyroid gland—past and present—European and American. Embryology Anatomy histology and cytology of the thyroid. Physiological aspects. Pharmacology and therapeutic aspects—iodine metabolism and blood iodine—thiouracil, propylthiouracil and related drugs in treatment of thyrotoxicosis—radioactive isotopes of iodine use in therapy of diffuse toxic goiter. Pathology Thyroiditis. Exophthalmic goiter. The thyroid gland in later life. Preoperative considerations. Anesthesia in thyroid surgery. Operative considerations. Postoperative care. Postoperative sequelae. Future of thyroid surgery. Index.

Note A comprehensive text based on very extensive experience with thyroid disorders at the DeCourcy Clinic in Cincinnati. The authors are surgeons and surgical techniques are described at length, but there is no undue emphasis. The treatment of thyroid disorders with drugs is well covered, and these chapters like the others are supplemented with good bibliographies. There are approximately 80 figures, several of which are in color

DUNCAN, GARFIELD GEORGE

Diabetes mellitus principles and treatment. Philadelphia W B Saunders Company 1951 289 p. illus. 24 cm. $6.25 1176

Contents: Introduction—definition of diabetes. Progress in the understanding of diabetes. History of diabetes. Incidence of diabetes. Etiology of diabetes. Prognosis. Insulin. Carbohydrate metabolism and the blood sugar. Disturbed physiology in diabetes. Pathology of diabetes. The urine and blood in diabetes. Symptomatology physical signs and diagnosis of diabetes. Food requirements. Treatment. Insulin therapy Complications of diabetes. Acute complications of diabetes. Diabetic coma. Pregnancy complicating diabetes. The diabetic child. Appendix. Index.

Note: A manual of practical treatment devoted mainly to those aspects of diabetes mellitus which are of concern to the general practitioner Diets, insulin therapy complications, etc., are given relatively more space than pathology, for instance. A considerable range of useful reference data are presented in tables. Literature references are few The author is Clinical Professor of Medicine in Jefferson Medical College.

DUNCAN GARFIELD GEORGE, editor

Diseases of metabolism detailed methods of diagnosis and treatment. With contributions by Walter Bauer and others. Third edition, illustrated. Philadelphia W B Saunders Company 1952 1179 p. illus. 25 cm. $15 00. 1177

Contents: Introductory considerations, by G. G. Duncan. Carbohydrate metabolism, by S. Soskin and R. Levine. Protein metabolism, by A. White. Lipid metabolism, by A. White. Mineral metabolism, by A. Cantarow Water balance in health and disease, by J. P Peters. Vitamins and avitaminoses, by T D. Spies and H. R. Butt. Undernutrition, by A. Keys Obesity by F A. Evans. Xanthomatoses—glycogen disease—and disturbances of intermediary metabolism, by E. Mason. Gout, by W Bauer and F Klemperer. Spontaneous hypoglycemia, by G. G. Duncan. Diabetes insipidus, by G. G. Duncan. Melituria, by A. Cantarow Diabetes mellitus, by G G. Duncan. Diabetes in childhood, by P White. Diseases of the thyroid, by R. W Rawson and J. E. Rall. Diseases of the kidney by M. Muller and and J M. Hayman, Jr. Porphyrin metabolism, by C. J. Watson. Appendix, by G. G. Duncan. Author index. Subject index.

Note: (1017*) A comprehensive review made up of chapters written by eminent authorities in this field. It is intended to provide graduate physicians with basis for the understanding, diagnosis, and treatment of metabolic diseases. Each chapter is supplemented by selected though rather extensive bibliography of the international literature. In comparison to the preceding edition, published in 1947 this edition exhibits considerable rewriting and augmentation The chapter on porphyrin metabolism is new Several chapters have been thoroughly rewritten and expanded; others have been condensed. The bibliographies have been completely overhauled.

FARQUHARSON, RAY FLETCHER

Simmonds' disease extreme insufficiency of the adenohypophysis. Springfield Illinois Charles C Thomas, 1950 93 p. illus. 22 cm. (American lecture series. Publication no 34 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2.00 1178

Contents: Initial recognition. Pathogenesis and pathology The clinical picture Summary and conclusion. Bibliography Index.

Note: A presentation of "the pathological and clinical picture of the syndrome of extreme insufficiency of the adenohypophysis. It is based on reports of cases in the published literature which include adequate descriptions of the clinical and pathological features including the findings in autopsies.

GREENBLATT ROBERT BENJAMIN

Office endocrinology Fourth edition. With a foreword by G Lombard Kelly Springfield, Illinois Charles C Thomas, 1952 561 p. illus. (part col'd) 24 cm. $10 50 1179

Contents (abridged): Section one, General endocrinology: Part 1, The pituitary Part 2, The thyroid and parathyroids. Part 3 The adrenals. Part 4 Miscellaneous—endocrine headaches. Acne. Obesity and leanness. Section two, Female endocrinology: Part 1, Disorders of menstruation. Part 2, Sterility and allied disorders. Part 3, Disorders in the sexual sphere. Part 4, Miscellaneous—Nausea and vomiting of endocrine origin. Disorders of micturition due to endocrine imbalance. Section three, Hormonology: Chemistry of steroid hormones. Estrogens. Androgens. Adrenal cortical hormones. Pellet implantation. Section four Diagnostic procedures: The vaginal smear The correlation of basal temperature and ovarian activity Laboratory procedures. Tests for pregnancy and their practical application. Section five, Male endocrinology: Hypogonadism. Male sterility and impotence. Testicular biopsy by W O. Nelson. Estrogen therapy in the male. Index.

Note: (1021) A standard treatment which is primarily designed for office use by physicians who are not specialists in endocrinology but who do require in their regular practice knowledge of the common manifestations of endocrinological malfunction. Each of the 64 chapters is concise discussion of specific disorder or of diagnostic or therapeutic technique. Diagnostic techniques and therapies which are available to the general physician who must work with limited laboratory facilities are described explicitly Literature references are included, some of which are to articles on more specialized techniques. In the present edition approximately one-third of the chapters are new and other chapters which have been carried over have been extensively rewritten. There are many new illustrations and the literature references have been extended.

JOSLIN ELLIOTT PROCTOR, AND OTHERS

The treatment of diabetes mellitus, by Elliott P Joslin Howard F Root, Priscilla White and Alexander Marble. Ninth edition, thoroughly revised, illustrated. Philadelphia Lea & Febiger 1952 771 p illus. (part col'd) 24 cm. $12 00 1180

Contents: Present concepts of diabetes, by E. P Joslin. The incidence of diabetes, by E. P Joslin The etiology and prevention of diabetes, by E. P Joslin and P White. The physiology of diabetes, by A. Marble. The pathology of diabetes, by S. Warren and P M. LeCompte. Examination of urine and blood in diabetes, by A. Marble. The diet in health and diabetes, by E. P Joslin. Definition, diagnosis, classification, symptomatology and prognosis of diabetes, by E. P Joslin. The treatment of diabetes, by E. P Joslin. Hypoglycemia due to insulin, by A. Marble. Hyperinsulinism, by A. Marble. Diabetic coma, by H. F Root. Allergy and diabetes, by A. Marble. Cardiovascular-renal disease, by H. F Root. Infections in diabetes, by A. Marble. The digestive system in diabetes, by A. Marble. The nervous system and diabetes, by H. F Root and A. J. Kenny The genito-urinary system in diabetes, by C. Bryan. Disorders of the skin in diabetes, by A. Marble. Blood complications in diabetes, by H. F Root and R. D. Story The eyes and diabetes, by H. F Root. Tuberculosis, by H. F Root and R. Dochat. Cancer complicating diabetes, by A. Marble. Surgery and diabetes, by H. F Root. Clinical disorders of the glands of internal secretion complicating diabetes, by H. F Root. Diabetic children and their later lives, by P White. Pregnancy complicating diabetes, by P White. Non-diabetic melliturias, by A. Marble. Index.

Note (1018*) A comprehensive monograph based on the authors' experience of some 40,000 patients. It is widely used as guide and reference book both by general practitioners of medicine and by specialists The primary emphasis is on the treatment, but the table of contents shows other aspects of this disease are covered also. The first chapter is of special public health interest because it outlines the facts on the incidence, mortality rates, and related public health aspects of diabetes. The eighth edition was published in 1946. The ninth edition represents thorough revision. Though shorter than the preceding edition, much new material has been added in the text and many new bibliographic references appear in the footnotes. Included among the appendix material is new method of calculating diabetic diets.

LICHTMAN SOLOMON SYDNEY

Diseases of the liver gallbladder and bile ducts. Second edition, thoroughly revised, with 147 illustrations and two color plates. Philadelphia Lea & Febiger 1949 1135 p. illus. (part col d) 24 cm. 1181

Contents: Part 1, Diseases of the liver: The structure of the liver. Physiology of the liver. The pathogenesis and pathology of jaundice. The symptoms and signs of liver disease. Liver function tests and

procedures—interpretation of results. Acute and subacute inflammatory diseases of the liver. Acute and subacute liver necrosis. Cirrhosis of the liver. Hemolytic jaundice. New growths of the liver. Echinococcus disease of the liver. Liver abscess. The liver in hyperthyroidism. The liver in pregnancy. Metabolic hepatomegalies. The liver in heart disease. Diseases of the blood vessels of the liver. Specific infections of the liver. Hepatic disease and the hematopoietic apparatus. Differential diagnosis—general considerations. The treatment of liver disease. Part II, Diseases of the gallbladder and biliary passages: Anatomic features. Physiology of the extrahepatic biliary tract. Diseases of the gallbladder. Diseases of the extrahepatic bile ducts. Diagnostic procedures in extrahepatic biliary tract disease. The treatment of biliary tract disease. Index.

Note. (1121) A comprehensive work written both for use as textbook in medical colleges and reference book for general practitioners and gastroenterologists. Although the general chapters are adequate, most of the space is devoted to discussions of specific diseases. For each disease attention is paid to etiological factors, pathogenesis, pathologic features, clinical features, treatment, and prognosis. Very extensive literature references are included in most of the chapters. The first edition was published in 1943. About 200 pages of new matter was added in this second edition, and chapters and sections carried over from the preceding edition have been revised where advances have added new knowledge. Among the prominent changes is completely rewritten discussion of infectious hepatitis.

McGavack, Thomas Hodge
The thyroid. With a section on surgery by James M Winfield and Walter L. Mersheimer and a section on history by Dorothy B Spear and Thomas Hodge McGavack. St. Louis The C V Mosby Company 1951 646 p illus. 26 cm. $14 00 1182

Contents (*abridged*) Section I, History: Iodine and goiter Anatomy, physiology and chemistry Hypothyroidism. Some recent discoveries—newer tools for investigation and therapy Section II, Anatomical, chemical and physiological considerations: The metabolism of iodine The synthesis and nature of thyroid hormone. The extrathyroidal production of hormonally active iodinated proteins. Extrathyroidal factors known to influence the follicle and its cyclic activity The thyrotrophic thyroid hormone-iodide balance (iodophthalothyroid axis) Known physiological actions of thyroid hormone. Interrelationship between the thyroid and other glands of internal secretion. Antithyroid compounds. Radioactive isotopes of iodine and the thyroid. Pregnancy and the thyroid. Section III, Morbid states. Classification of thyroid disease. Disturbances of the thyroid gland due to or closely associated with congenital anomalies. Intrathoracic goiter. Thyroiditis. Iodine deficiency goiter (endemic goiter) Hypothyroidism. Dysphrenic myxedema. Nodular goiter. Carcinoma of the thyroid gland Hyperthyroidism. Ophthalmopathic Graves' disease. Section IV Surgical considerations History of the technic of thyroidectomy Indications for surgery Preoperative preparation. The technic of subtotal resection of the thyroid gland. Postoperative care. Index.

Note. A comprehensive work in which the main emphasis is on the biochemistry and physiology of the thyroid in health and disease Essentially it is critical literature digest, and the author has paid careful attention to the citing of source articles. Diseases are specifically described with particular attention being paid to such aspects as pathology clinical picture, diagnosis, prognosis, and treatment. The section on surgery is brief. Extensive bibliographies of the modern literature are included. The book is potentially of interest to advanced medical students, graduate research workers, and other scientists in need of comprehensive survey of the current knowledge and literature.

Rifkin Harold and others
Diabetic glomerulosclerosis the specific renal disease of diabetes mellitus. By Harold Rifkin Louis Leiter [and] James Berkman. Springfield, Illinois Charles C Thomas 1952 102 p illus 22 cm. (American lecture series. Publication number 130 A monograph in American lectures in metabolism, edited by Paul György and others) $3 50 1083

Contents. The clinical syndrome. Pathology Pathogenesis. Analysis of clinical data. Laboratory aids in diagnosis. Differential diagnosis. Treatment. Bibliography Index.

Note. A short monograph based partly on studies made by the authors at Montefiore Hospital, New York City and partly on the published studies of other clinicians. It covers complication of diabetes mellitus on which relatively little has been published. The authors stress the importance of early diagnosis and also of further study of the condition. Under treatment they offer no specific therapy but point out the necessity of a high level of control of the patient diabetes so as to delay and possibly prevent degenerative vascular changes.

Soffer, Louis Julius
Diseases of the endocrine glands by Louis J Soffer with the assistance of J Lester Gabrilove with a section on carbohydrate metabolism hypoglycemia, and diabetes mellitus by Henry Dolger and the section on the gonads by Arthur R. Sohval. 88 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1951 1142 p. illus. (part col'd) 24 cm. $15 00 1184

Contents (*abridged*) Section I, The hypophysis: The embryology anatomy and histology of the hypophysis. The physiologic functions of the hypophysis. Diseases of the hypophysis. Section II, The adrenals: The anatomy morphologic structure, and embryology of the adrenals. Physiology of the adrenals. Addison's disease. Adrenogenital syndrome. Sympathogonioma, neuroblastoma, and ganglioneuroma of the adrenal. Section III, The gonads: Physiology of the testis, by A. R. Sohval. Diseases of the testis, by A. R. Sohval. The ovary by A. R. Sohval. The virilizing syndrome. Section IV The thyroid: Embryology, gross and microscopic anatomy, and the physiology of the thyroid gland. The value of laboratory aids in the diagnosis of thyroid disease. Inflammatory diseases of the thyroid gland. Hypothyroidism. Tumors of the thyroid gland. Section The thymus, and parathyroids. Section VI, Hypoglycemia, hyperinsulinism and diabetes mellitus. Appendix: Laboratory tests of endocrine function. Index.

Note. A comprehensive work in which common as well as rare diseases are covered. The point of view is definitely that of the clinician. Embryology and anatomy are covered in each of the sections but the treatment of these aspects is brief. Much of the text consists of very compact summaries of published articles. In each chapter textual statements are key-numbered to the chapter bibliographies which in many instances run to more than 100 citations. The book is suitable for use both as graduate text and reference manual. The author is Head of the Endocrine Research Laboratory and Clinic of Mount Sinai Hospital, New York City

Soskin Samuel editor
Progress in clinical endocrinology New York Grune & Stratton 1950 641 p. illus. 24 cm. $10 00 1185

Contents (*abridged*) I, Introductory: The role of hormones in metabolism, by S. Soskin and R. Levine. Endocrine regulation of cellular protein metabolism, by A. White. II, Thyroid: Relation of nodular goiter to thyroid carcinoma, by L. M. Zimmerman and D. E. Wagner The thyrotoxic myopathies, by H. A. Eder. Hypothyroidism in children, by L. Wilkins. Use of radioactive iodine in the diagnosis, clinical study and treatment of diseases of the thyroid, by S. Hertz. Clinical use of the antithyroid drugs, by E. B. Astwood. III, Parathyroid: Diagnosis and treatment of Hyperparathyroidism, by I. Snapper. Diagnosis and treatment of hypoparathyroidism, by M. Tashenberg. IV Adrenal cortex: Pituitary regulation of adrenal cortical activity, by G. Sayers. Electrolyte regulation by the adrenal cortex, by H. K. Hardman. Adrenogenital syndrome, by S. F Wilhelm. The diagnosis and treatment of Addison's disease, by L. J Soffer Adrenal medulla: Pheochromocytoma, by J. Aranow Jr. Adrenergic blocking drugs, by E. R. Loew VI, Pancreas: Diabetes mellitus of pancreatic origin, by H. T. Ricketts. Insulin resistance, by H. E. Martin. The treatment of diabetic acidosis with potassium salts, by E. H. Rynearson and C. F Gastineau. Treatment of diabetes with "free diet" during the past ten years, by E. Tolstoi. Insulin mixtures and modifications, by F. R. Peck. Spontaneous hypoglycemia, by J W Conn. VII, Ovary: Attempted induction of ovulation in women, by W E. Brown. Hormone-producing tumors of the ovary by R. E. Greene. The diagnostic significance of pregnanediol excretion, by H. S. Guterman. Gynecography in the diagnosis of ovarian disorders, by I. F. Stein. Clinical significance of FSH excretion, by H. F Klinefelter. Clinical use of progesterone, by J. S. Guterman. VIII, Testis: Metabolic influence of the androgens, by C. D. Kochakian. Endocrine aspects of infertility in the male, by E. T. Engle and A. Soskin.

Hormonally active tumors of the testes, by G. H. Twombly. The treatment of cryptorchidism, by M. M. Steiner. IX, Special aspects of sex endocrinology: The influence of the liver on sex endocrine functions, by R. L. Glass. Methods for chronic administration of steroid hormones, by A. Segaloff. X, Anterior pituitary: The nutritional and endocrine control of growth in children, by E. R. Kantsaker. Antihormones, by K. W. Thompson. XI, Posterior pituitary: Principles of the posterior lobe of the pituitary body, by H. B. van Dyke. Diabetes insipidus and its differential diagnosis, by R. C. de Bodo and I. H. Kiser. XII, Use of hormones in nonendocrine conditions: Hormone therapy of carcinoma of the prostate, by R. H. Flocks. Experimental use of testosterone compounds in premature infants, by E. K. Shelton and others. The role of hormones in the pathogenesis and treatment of gout, by W. Q. Wolfson. XIII, General endocrine topics: Influence of the endocrines on the skeleton in health and disease, by J. P. Weinmann. The relationship of the endocrine glands to obesity, by E. Strouse and C. D. Strouse. Index.

Note: The first volume published in a series that is planned to present periodically a summary of current knowledge and recent developments. The volume at hand contains 79 papers. The typical paper is an eight page digest of published literature and is accompanied by a bibliography. The papers are addressed to graduate physicians and to scientists in other fields who are familiar with the terminology of clinical medicine and endocrinology.

THANNHAUSER, SIEGFRIED J

Lipidoses, diseases of the cellular lipid metabolism. *Edited by Henry A. Christian.* (Reprinted from Oxford loose-leaf medicine with the same page numbers as in that work) Second edition. New York Oxford University Press, 1950 595 10 p. illus. (part col d) 24 cm. $12 00 1186

Contents (abridged): Part I, The physiology and chemistry of lipid metabolism. Part II, Hyperlipemia. Part III, Xanthomatoses: Hypercholesteremic xanthomatoses. Hyperlipemia (accumulation of neutral fat in serum) with secondary eruptive xanthoma. Normocholesteremic xanthomatoses. Part IV, Gaucher's disease (reticular and histiocytic cerebrosidosis). Part V, Niemann-Pick's disease (reticular and histiocytic sphingomyelinosis). Supplement: Infantile amaurotic idiocy. Hurler-Pfaundler syndrome (gargoylism). Index.

Note: A monographic survey of the groups of diseases named in the part titles. The first chapter is an outline with key-numbered references to the literature of the knowledge of the biochemistry of lipid metabolism. Comprehensive lists of international literature pertaining to each group of diseases are a special feature. There are 124 figures. The first edition was published in 1940. Moderately extensive revisions are evident in several parts of this edition.

THOMAS LEWIS editor

Rheumatic fever A symposium held at the *University of Minnesota on November 29 30* and December 1 1951 under the sponsorship of the Minnesota Heart Association. Minneapolis University of Minnesota Press, 1952 349 p. illus. 24 cm. $10.00 1187

Contents: The natural history of rheumatic fever, by T. D. Jones and E. F. Bland. The epidemiology of rheumatic fever, by J. J. Schwentker. The histopathology of rheumatic fever—a critical review, by G. E. Murphy. Inflammatory complications of congenital heart disease, by T. J. Dry and D. C. Connolly. The biology of group A hemolytic streptococci, by M. McCarty. Studies on the epidemiology of rheumatic fever in the armed services, by C. H. Rammelkamp and others. Infection and reinfection by hemolytic streptococci in early childhood, by L. A. Rantz and others. Nonrheumatic myocarditis, by H. L. Hodes. Acute-phase reactions in rheumatic fever, by R. A. Good. The immune response in rheumatic fever, by M. McCarty. Attempts to induce rheumatic fever in experimental animals—a critical review with particular reference to the Aschoff bodies in the myocardium, by G. E. Murphy. Experimental bacterial endocarditis and glomerulonephritis—a description of a method of production utilizing streptococcal infection, and a summary of the results of antibiotic therapy, by C. W. Lillehei and others. Tissue factors in streptococcal infections, by D. W. Watson and W. J. Cromartie. The biochemistry of connective tissue and rheumatic fever, by A. Dorfman. The penetration of antigens into connective tissue, by A. H. Coons. The pathogenesis of the Shwartzman and Arthus phenomena and their relation to human rheumatic fever, by C. A. Stetson, Jr. The generalized Shwartzman reaction in rabbits infected with group A hemolytic streptococci, by L. Thomas. The surgical problem in rheumatic valvular heart disease, by R. L. Varco and I. D. Baronofsky. Subacute bacterial endocarditis, by W. E. Herrell and F. R. Heilman. Acute rheumatic fever treated with cortisone and corticotropin, by A. R. Barnes and others. Therapy of rheumatic fever—a discussion, by A. G. Kuttner. The prevention of rheumatic fever, by C. H. Rammelkamp and others. The management of rheumatic fever, by M. J. Shapiro. Bibliography.

Note: Many of the papers collected in this volume describe recent advances in the understanding and therapy of rheumatic fever, including the results of studies carried out by the United States Armed Forces. Several of the papers are accompanied by transcripts of the discussion which took place at the symposium. Some include extensive bibliographies.

UNITED STATES ARMY ARMY MEDICAL LIBRARY

The pituitary-adrenocortical function ACTH, cortisone and related compounds. A bibliography compiled by Karl A. Baer and Marjory Spencer with the assistance of Paulyne Tureman and Stanley Jablonski. Washington D C. Army Medical Library 1950. 366 p. 26 cm. Paper Sent free to libraries and institutions. 1188

Note: A bibliography consisting of 3441 references to the international literature. The arrangement is alphabetical by disease and other biochemical and medical aspects. Examples of subject groups are Addison's disease, "arthritis," "blood-chemistry" and "metabolism." An author index is included.

WARREN SHIELDS AND PHILIP M LECOMPTE

The pathology of diabetes mellitus. Third edition thoroughly revised. 112 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1952 336 p illus (part col d) 24 cm. $7.50. 1189

Contents (abridged): Diabetes mellitus and the pancreas. Lesions of the pancreas in nondiabetic individuals. Pathological evidences of abnormal carbohydrate metabolism. Pathological evidences of abnormal fat metabolism. The pathology of acidosis and coma. Diabetes and infection. Vascular disease in diabetes. Gangrene. The heart. The kidney. The eye. The nervous system. The pituitary. The adrenal glands. Other endocrine glands. The pathology of diabetes in children. Hemochromatosis. The pathology of insulin-resistant cases. Hyperinsulinism and the pathological effects of insulin. Infants of diabetic mothers. Cancer and diabetes. Experimental diabetes. The etiology and pathogenesis of diabetes. A unifying concept of the pathology of diabetes. Appendices. Index.

Note: The current knowledge of the pathology of diabetes mellitus is presented very compactly in this work. The historical development of the insular hypothesis of the etiology of the disease is outlined in the seven pages of the first chapter but the outline is supplemented by 90 literature citations. This combination of a brief text keyed to a large number of literature citations is typical. There is considerable emphasis on the experimental and clinical evidence which underlies the current knowledge. Controversial issues and aspects which require further investigation are discussed. The second edition was published in 1938 and ran to 244 pages. Much material was added and the discussions of numerous topics were revised in preparing this edition. Recent literature was added to the bibliographies.

WILLIAMS ROBERT HARDIN editor

Textbook of endocrinology Philadelphia W B Saunders Company 1950 793 p illus. (partly col d) 24 cm. $11.00 1190

Contents: General principles of endocrinology, by R. H. Williams. Pituitary, by R. H. Williams. Thyroid, by R. H. Williams. The adrenals: Part I, Chronic adrenal hyperfunction, by E. J. Kepler and W. Locke. Part II, Adrenal cortical insufficiency, by G. W. Thorn and P. H. Forsham. The testes, by J. E. Howard and W. W. Scott. The ovaries, by G. V. S. Smith. The pancreas and diabetes mellitus, by G. W. Thorn and P. H. Forsham. Diseases of the parathyroid glands, by E. C. Reifenstein, Jr. Influence of endocrine glands upon growth and development, by L. Wilkins. Nonendocrine

and psychodynamic aspects of the endocrinopathies, by H. B. Friedgood. Obesity by L. H. Newburgh. Laboratory diagnostic and assay procedures, by R. H. Williams. Index.

Note. Each of the chapters in this book is in effect condensed monograph of the specific facet of endocrinology that is named in its title. Background information in anatomy physiology and chemistry is always included, but the emphasis is on the clinical aspects, particularly diagnosis, treatment, and prognosis. Some of the authors have included very specific information such as dosages and sample diets. In addition to its use as textbook, the book is suitable one for the office libraries of general practitioners.

YEAR BOOK OF ENDOCRINOLOGY

The 1951 year book *of* endocrinology (January 1951–January 1952) Edited by Gilbert S Gordan. Chicago The Year Book Publishers Inc., 1952 415 p. illus. 20 cm. $5 50 1191

Contents: Introduction. The pituitary gland. The thyroid gland and exophthalmos. The parathyroids, calcium metabolism and metabolic bone diseases. The adrenal medulla. The adrenal cortex. Cortisone, corticotrophin and allied compounds. Sexual precocity. Female reproductive system. The testes. Diabetes mellitus and carbohydrate metabolism. Endocrine treatment of neoplastic disease. Miscellaneous. Index. Index to authors.

Note. (1033*) As in other volumes of this important series the significant literature published throughout the world during the period noted in the title is presented in the form of abstracts. In many instances the abstract is supplemented by note written by the editor in which the conclusions of the author are criticized or commented upon in some way. Also, most of the chapters or sections are prefaced with critical review of current developments written by the editor. As might be expected, the section on cortisone and allied compounds is one of the longer ones in the book.

NEUROLOGY

ALVAREZ WALTER CLEMENT

The neuroses diagnosis and management of functional disorders and minor psychoses. Philadelphia W B Saunders Company 1951 667 p. 24 cm. $10 00 1192

Contents (abridged) Part II, Diagnosis: Hints for recognizing in moment the neurotic patient, or the one whose troubles are likely to be functional. Hints for the taking of history. The ordering or not ordering of tests. Part III, Causes of neuroses and psychoses: Common causes of neuroses and minor psychoses. Nervous syndromes due to physiologic rather than psychic storms. A poor nervous heredity the cause of many neuroses. Marriage as cause of neuroses. Appendixes. Bibliography. Index.

Note: This book is both unusual and informal. Written by an eminent specialist in internal medicine, it presents neuroses from the viewpoint of the physician who first sees the ill or complaining patient in the clinic. The importance of patience and care in the taking of histories is stressed. The author's viewpoint on treatment is one of "common sense" instead of professional psychiatry. However he does include advice on the referring of patients to specialists in psychiatry. Many anecdotes and summaries of case histories from the author's long practice are included. Also material has been taken from the literature, and the bibliography is substantial one.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Multiple sclerosis and the demyelinating diseases. Proceedings of the association December 10 and 11 1948 New York. With 153 illustrations and 124 tables. Baltimore The Williams & Wilkins Company 1950. 675 p. illus. 23 cm. (Association for Research in Nervous and Mental Diseases Research publications. Volume XXVIII. Editorial board Henry W Woltman and others) $12.00 1193

Contents: Part I, Multiple sclerosis—historical retrospect, by W Thomas. Part II, Ecology of multiple sclerosis: The geographic distribution of multiple sclerosis and its estimated prevalence in the United States, by C. C. Limburg. Multiple sclerosis in rural community by A. R. MacLean. The social significance of multiple sclerosis, by L. C. Kolb. Part III, Etiology of the demyelinating diseases: Critique of theories concerning the etiology of multiple sclerosis, by H. H. Reese. Demyelination resulting from endogenous toxins, by A. B. Baker. Demyelinating diseases of animals, by I. E. M. Innes. Experimental production of encephalomyelitis in guinea pigs, by E. C. Alvord, Jr and L. D. Stevenson. Experimental studies on acute disseminated encephalomyelitis in rhesus monkeys, by E. A. Kabat and others. The effect of starvation on the myelin sheaths of the peripheral nerves of rats, by R. L. Swank and O. A. Bessey. Emotional stress in relation to attacks of multiple sclerosis, by R. M. Brickner and D. J Simons. The familial occurrence of multiple sclerosis and its implications, by R. P Mackay. Blood and plasma transfusions in multiple sclerosis, by L. Alexander and others. Part IV Blood flow in multiple sclerosis: Cerebral blood flow in multiple sclerosis, by W M. Tucker and others. The significance of peripheral vascular changes in multiple sclerosis, by G. O. Grain and V F. Johnson. The significance of localized vasoconstrictions in multiple sclerosis, by R. M. Brickner. Part Anatomic and chemical aspects of the myelin sheath. The ultrastructure of the nerve myelin sheath, by F O. Schmitt. The chemistry of myelination and demyelination, by W M. Sperry and H. Waelsch. Part VI, Pathologic aspects of the demyelinating diseases. Pathology of multiple sclerosis, by H. M. Zimmerman and M. Netsky. Diffuse sclerosis and other unusual demyelinating processes, by C. Davison. The pathology and pathogenesis of encephalomyelitis associated with vaccination and the exanthemas, by K. H. Finley. The naturally occurring demyelinating diseases of animals, by L. Z. King and M. C. Meulen. Part VII, Symptoms and signs, clinical course and diagnosis of multiple sclerosis: Retrobulbar neuritis in multiple sclerosis, by P J. Leinfelder. Sheathing of the retinal veins in multiple sclerosis, by C. W Rucker. The ocular findings in multiple sclerosis, by M. Savitsky and L. Rangell. The syndrome of the medial longitudinal fasciculus, by M. B. Bender and E. A. Weinstein. The electroencephalogram in multiple sclerosis, by H. Jasper and others. The cerebrospinal fluid in multiple sclerosis, by D A. Freedman and H. H. Merritt. Cerebrospinal fluid examination in diagnosis of multiple sclerosis, with emphasis on the quantitative gold reaction, by T J. C. von Storch and others. The mental changes associated with multiple sclerosis, by F J. Braceland and M. E. Giffin. Some psychodynamic factors in multiple sclerosis, by R. R. Grinker and others. The results of psychometric and personality tests in multiple sclerosis, by M. Harrower. The course of multiple sclerosis as determined by autopsy proven cases, by S. Carter and others. Multiple sclerosis—prognosis for ambulatory and nonambulatory patients, by J. A. Lazarte. On the diagnosis of multiple sclerosis, by F. Kennedy. The effect of injuries and illness on the course of multiple sclerosis, by M. Keschner. The effect of pregnancy on multiple sclerosis and its management, by A. J R. Tillman. Part VIII, Current treatment of multiple sclerosis: The treatment of multiple sclerosis, by T. J. Putnam. The problems of rehabilitation in multiple sclerosis, by H. A. Rusk. A survey of the maladjustment problems in multiple sclerosis and the possibilities of psychotherapy, by O. R. Langworthy. Cumulative bibliography. Index. List of members.

Note: A collection of original papers prepared for the occasion mentioned in the book's title. A very wide range of information is included. Many of the chapters are accompanied by excerpts of the discussions at the meeting and by lists of references.

BENDER, MORRIS B

Disorders in perception, with particular reference to the phenomena of extinction and displacement. Springfield, Illinois Charles C Thomas, 1952 109 p illus. 22 cm. (American lecture series. Publication number 120 A monograph in American lectures in neurology) $3 00. 1194

Contents: Introduction. Modes of stimulation and the phenomenon of extinction. Sensory phenomena obtained on simultaneous stimulation in the normal. Extinction phenomena in disease. Spatial displacement in extinction. Extinction and the phenomenon of sensory displacement. Theories on extinction. Summary. Bibliography. Index.

Note. The results of series of studies made by the author and his collaborators between 1941 and 1950 at the United States Naval Hospital in San Diego, California, and in the Laboratory of Psychophysiology of New York University-Bellevue Medical Center. Among the author's findings are (1) double simultaneous stimulation may reveal sensory changes not revealed by single stimulation, (2) spinal cord lesions as well as cerebral disorders may produce extinction of perception, (3) there is well-defined spatial pattern among the

areas which yield extinction, dominance, or displacement, and (4) extinction of sensation is never an isolated disorder

BROCK, SAMUEL, editor

Injuries of the brain and spinal cord and their coverings neuro-psychiatric, surgical, and medico-legal aspects. Contributors Bernard J Alpers (and others) Third edition. Baltimore The Williams & Wilkins Company 1949 783 p. illus. 24 cm. $10 00 1195

Contents. General considerations in injuries of the brain and spinal cord and their coverings, by S. Brock. General pathological considerations in brain injury by G. B. Hassin. Fractures of the skull—osteomyelitis of the cranial bones—post-traumatic epidural and subdural abscess—septic thrombophlebitis of the dural venous sinuses, by J Browder. Concussion and contusion of the brain and their sequelae, by Sir C. Symonds. Injury to cranial nerves and optic chiasm, by W R. Russell. Massive intracerebral hemorrhage of traumatic origin, by E. D. Friedman. Extradural hematoma, subdural hematoma, subdural hydroma, cephalhematoma, by M. M. Peet. Post-traumatic brain abscess—post traumatic meningitis, by F C. Grant. Gunshot wounds of the brain and their complications—foreign bodies—cranial defects—traumatic cerebrospinal fluid rhinorrhea and spontaneous pneumocephaly by L. M. Davidoff and E. H. Feiring. Cerebral birth injuries, by B. J Alpers The post-traumatic convulsive and allied states, by A. R. Elvidge. Neuroses following head and brain injuries, by P Schilder. Neuroses following head and brain injuries, by *R. R. Grinker and J. Weinberg. Psychotic states* following head and brain injury in adults and children, by K. M. Bowman and A. Blau. Simulation (malingering) in relation to injuries of the brain and spinal cord and their coverings, by M. Keschner The relationship of brain injury to other organic diseases of the brain, by I. S. Wechsler The roentgenological aspects of fractures of the skull and injuries of the brain, by C. G. Dyke. General pathological considerations in injuries of the spinal cord, by C. Davison. Birth injuries of the spinal cord, by B. Crothers. Injuries of the vertebral column and spinal cord, by J. E. Scarff. Herniation and protrusion of intervertebral disc tissue, by F A. Echlin. The relationship of spinal cord injuries to other diseases of the spinal cord, by T K. Davis. The effects of electric shock on the nervous system, by G. H. Hyslop. Compressed air illness (caisson disease) cerebral fat embolism, cerebral air embolism, by C. C. Hare. The medico-legal aspects of injuries of the brain and spinal cord and their coverings, by M. Keschner. The electroencephalogram in cases of head injury by P F A Hoefer Index

Note (1641) A comprehensive treatment composed of series of monographs written by outstanding neurologists and psychiatrists. Although it is of interest to specialists such as neurologists and neurosurgeons, serves also as manual of information for general practitioners of medicine and for insurance company personnel, court officers, etc., who are concerned with injuries of this class from the legal and compensation angles. In the present edition nine chapters have been carried over unchanged from the second edition. Most of the other chapters have been extensively revised, and two of them are new additions.

COHN ROBERT

Clinical electroencephalography New York McGraw-Hill Book Company Inc., 1949 639 p. illus. 23 cm. $16.00 1196

Contents: General considerations. Within the range of normal variation. Intracranial space-taking lesions. Cerebral vascular lesions. Arterial hypertension. Encephalopathies. Head injury—recent—old. Epilepsy—petit mal—grand mal and epileptic equivalents. Migraine. Headaches. Normal sleep and disorders of sleep (narcolepsy). Alcoholism. Some important clinical electric correlations. Disorders of behavior. Recommended reference reading. Index.

Note: Essentially this work is an atlas of 373 electroencephalograms in which the illustrative matter is preceded by some 20 pages of background information on brain wave phenomena and the electroencephalograph. The electroencephalograms are classified under the headings given in the above table of contents and each one is accompanied by specific discussion of the case, the diagnosis, and the features of the EEG. The author is Electroencephalographer and Director of Neurological Research in the U S. Naval Hospital, Bethesda, Maryland, and the book is based on recordings made over 5-year period at this hospital.

COURVILLE CYRIL BRIAN

Pathology of the central nervous system, a study based upon a survey of lesions found in a series of forty thousand autopsies. Third edition, Mountain View California Pacific Press Publishing Association, 1950 473 p. illus. 26 cm. 1197

Contents: Introduction—a survey of histologic alterations occurring in the nervous elements. Congenital malformations and anomalies of the central nervous system. Diseases of the intracranial and intraspinal blood vessels. Infectious diseases of the central nervous system and its envelopes. Effects of trauma on the central nervous system. Intoxications and deficiency diseases. Diseases of unknown etiology, degenerative diseases, abiotrophies. Tumors of the intracranial and intraspinal spaces. Appendices. Index.

Note: (1034) A medical college textbook based on an extensive series of autopsies. The author has not attempted to describe all pathological conditions of the central nervous system, but the range of diseases covered is wide one. Common diseases of the brain and spinal cord are all described with special emphasis on the clinical aspects. Although not lavishly illustrated, the present edition contains more than 200 figures, considerable number of which are reproductions of photographs of pathological specimens. The second edition was published in 1945. Although the third edition does not represent as extensive revision as did the second edition, useful material has been added on many topics and some sections have been rewritten in order to simplify them. Literature references are included.

DAVIDOFF LEO MAX, AND CORNELIUS G DYKE

The normal encephalogram. Third edition thoroughly revised by Leo M. Davidoff 190 illustrations on 156 figures. Philadelphia Lea & Febiger 1951 240 p. illus. 24 cm. $6 00. 1198

Contents: General considerations. The ventricles, interventricular foramina, and aqueduct of Sylvius. The cerebral convolutions and sulci. The subarachnoid cisterns and their contents. Intracranial structures and their related fluid spaces. Bibliography Index.

Note: (1037*) In this book the fundamentals of encephalography as used in the diagnosis of diseases within the intracranial cavity are presented for neurosurgeons, roentgenologists, pediatricians, internists, and general practitioners. The text is based on the senior author's experience with several thousand cases and on review of the international literature. The third edition does not differ much from the second edition published in 1946. Material has been added to few sections and some corrections were made. About 15 papers published since 1945 have been added to the bibliography

DAVIDOFF LEO MAX, AND BERNARD S EPSTEIN

The abnormal pneumoencephalogram. 695 illustrations on 289 figures. Philadelphia Lea & Febiger 1950 506 p illus. 27 cm. $15 00 1199

Contents (abridged) Part 1. Tumors of the brain Section 1. Neoplasms. *Frontal lobe tumors. Parietal lobe tumors.* Occipital lobe tumors Temporal lobe tumors Parasagittal tumors. Meningiomas of the olfactory groove, tuberculum sellae, sphenoid wings and sylvian fissure. Tumors of the optic nerves and chiasm. Pituitary adenomas. Craniopharyngiomas. Tumors of the basal ganglia and thalamus. Pineal tumors. Lateral ventricle tumors. Tumors of the peduncles and pons. Tumors of the posterior cranial fossa. Section 2. Non-neoplastic tumors: Chronic subdural hematoma. Brain abscess. Vascular anomalies of the brain. Cerebral hemorrhage and thrombosis. Part 2 Non-tumorous lesions of the brain. Lesions of the septum pellucidum. Lesions of the aqueduct of Sylvius. Cerebral atrophy Congenital hydrocephalus; amaurotic family idiocy. Serous meningitis. Encephalitis, encephalopathies and rare infections of the nervous system. Tuberous sclerosis. Bibliography Index.

Note: (037*) This work is complementary to L. M. Davidoff and C. G. Dyke, *The normal encephalogram,* third edition, described above. It is comprehensive treatment of the use of pneumoencephalography in diagnosing disorders, written for all who are *professionally concerned with neurological diagnosis,* but addressed particularly to radiologists. The emphasis is on interpretation of pneumoencephalograms but the relevant pathology is well covered. Clinical syndromes are briefly described; illustrative case reports are included and supported by many illustrations, most of them pneumoencephalograms. The bibliography is extensive.

FORD FRANK RODOLPH

Diseases of the nervous system in infancy childhood and adolescence. Third edition. Springfield Illinois Charles C Thomas 1952 1181 p. illus. 26 cm. $18 50 1200

Contents. The examination of the nervous system. Clinical aspects of the anatomy and physiology of the nervous system. Prenatal and developmental defects of the nervous system. Heredofamilial and degenerative diseases of the nervous system. Infectious and parasitic invasions of the nervous system. Toxic and metabolic disorders involving the nervous system. Vascular lesions and circulatory disorders of the nervous system. Neoplasms and related conditions involving the nervous system. Injuries of the nervous system by physical agents. The epilepsies and paroxysmal disorders of the nervous system. Diseases of the autonomic system. Diseases of the muscles. Disorders of growth and development including dwarfism, sexual infantilism, sexual precocity pigmentation, obesity and emaciation. Index.

Note. (2171a) A comprehensive treatise in which all neurological diseases that occur in childhood are covered. It is addressed primarily to graduate neurologists and pediatricians and is organized for reference use as well as study Generally speaking, the discussion of each disease covers the following points. definition, pathological analysis, clinical features, diagnosis, prognosis, treatment, and literature references. Epidemiology is also covered for infectious diseases such as epidemic encephalitis. The second edition was published in 1945 The work was widely revised and considerably expanded for the present edition. There are now 195 figures, some of which contain more than one illustration.

FREEMAN, WALTER, AND JAMES W WATTS

Psychosurgery in the treatment of mental disorders and intractable pain. Second edition. Springfield Illinois Charles C Thomas 1950 598 p. illus. (part col d) 26 cm. $12 50 1201

Contents (abridged) Introduction. Part I, The frontal lobes. Part II, Surgical aspects of prefrontal lobotomy: Operative technic—precision method. Preoperative and postoperative management. Choice of type of operation. Complications and sequels. Part III, Clinical observations Observations on the operating table. Postoperative condition. The patient comes home Occupational adjustment. Recreational and spiritual adjustment, morals. Creative capacity Part IV, Special studies. Motor functions after lobotomy The pathology of prefrontal lobotomy Personality changes after psychosurgery Associated physical and psychosomatic disorders. Pain. Part Prefrontal lobotomy and mental disorder: The schizophrenic reaction type. Affective reaction types. Obsessive-compulsive and obsessive-ruminative tension states. Results of prefrontal lobotomy Prefrontal lobotomy—indications and contraindications. The functions of the frontal lobes. Bibliography Index

Note An important treatise in this field. The authors performed in September 1936, the first prefrontal lobotomy in the United States of America and have had jointly an extensive experience in psychosurgery There is some emphasis on those aspects which are of primary interest to neurologists and psychiatrists, but the techniques of operations are also clearly described A special feature is the inclusion of the complete case histories of patients observed over period of years following brain operations. The first edition was published in 1942 and was based on only 80 cases. For the present edition the authors drew on their experiences in more than 1000 cases, and on the advances made by other workers in this active field, including especially the methods and findings of the Columbia-Greystone Project, whose report edited by Mettler is described below

FRIEDMAN ARNOLD P

Modern headache therapy St. Louis The C. V Mosby Company 1951 164 p. illus. 23 cm. $4 50 1202

Contents Diagnosis. Treatment. Mechanisms of pain. Headaches associated with intracranial disorders. Headaches associated with extracranial disorders. Headache due to systemic disorders. Migraine headache Psychogenic headache Posttraumatic headache Index.

Note. A practical, clearly written summary of the current knowledge bearing on the causes, diagnosis, and treatment of chronic headache. It is addressed to general medical practitioners, and it is so organized that it can be used independently of the literature or as guide to the important books and articles. The author is Physician-in-Charge of the Headache Clinic of Montefiore Hospital, New York City

FULTON JOHN FARQUHAR

Frontal lobotomy and affective behavior a neurophysiological analysis. New York. W W Norton & Company Inc., 1951 159 p. illus. (part col d) 21 cm. $3 00 1203

Contents: Historical background—the psychobiological approaches. The new functional anatomy of the cerebral cortex. Recent behavioral studies in animals. Lobotomy in man. References. Index.

Note. The second of these books, as well as the first, is based on series of lectures. The occasion for the second book was the Thomas William Salmon Memorial Lectures of the New York Academy of Medicine in 1950. The two books complement one another. The earlier one is skillful summary of the knowledge of the effects of frontal lobotomy to about the beginning of 1948. The second book in effect brings the account down to late 1950. The author is leading investigator in this field, and he has included also the results of the investigations and experiences of other workers in the field. Substantial reference lists to the published literature are included in both books. There are 33 figures in the earlier book and 70 in the later one.

FULTON JOHN FARQUHAR

Functional localization in relation to frontal lobotomy Being the William Withering Memorial Lectures delivered at the Birmingham Medical School, 1948 New York Oxford University Press 1949 140 p. illus. 21 cm. $3 00. 1204

Contents: Introductory appreciation of William Withering. The frontal lobes—the precentral motor cortex. The frontal areas and the orbital surface—subhuman primates. The frontal areas and the orbital surface—man. The cerebellum reconsidered. Index.

GIBBS FREDERIC ANDREWS, AND ERNA L. GIBBS

Atlas of electroencephalography Cambridge, Mass. Addison Wesley Press, Inc., *1950–52 2 v illus. 27 cm. Vol. I, $17.50* Vol. II, $25 00 1205

Contents (abridged) Volume one, Methodology and controls, second edition. History The shape of the problem. Physics and chemistry Physiology Methodology General characteristics of the electroencephalogram. Changes with age, awake. Changes with asleep. Other modifying factors. Appendices: Practical aspects of laboratory organization and operation. Minimal requirements of the American Medical Association for acceptable direct-reading electroencephalographs. Specifications for electroencephalographic apparatus recommended by the American Electroencephalographic Society Instructions for making and applying external electrodes. Bibliography. Index. Volume II, Epilepsy: Perspectives. Neurophysiology [illegible] genesis. Clinical correlates of paroxysmal cerebral dysrhythmias [illegible] nostic outline—material and methods of classification. [illegible] spasms Petit mal variant. Petit mal. Myoclonic seizures. Grand mal [illegible] Psychomotor epilepsy Jacksonian seizures and focal convulsions—[illegible] foci in cortical areas other than the anterior temporal. Thalamic and hypothalamic epilepsy Mixed seizure activity and [illegible] Methods of activating seizure discharges. Medication. [illegible] surgery Bibliography Index.

Note The large-scale reproductions of electroencephalograms are the main feature of this work Each of the plates is approximately 30 cm. by 20 cm. and there are 210 plates in volume 1 and [illegible] in vol. 2. Each plate is accompanied by an interpretation caption. In addition to the captions each of the volumes contains [illegible] background chapters. The work is addressed to electroencephalographers, both those who are already engaged in the recording and interpretation of electroencephalograms and those who are preparing for work in this specialty The first edition of volume 1 was published in 1941. The set described here consists of the second edition of volume 1 and the first edition of volume 2.

GREENBLATT MILTON AND OTHERS editors

Studies in lobotomy Milton Greenblatt, Robert Arnot and Harry C. Solomon, editors. New York Grune & Stratton Inc. 1950 495 p. illus. 24 cm. $10.00. 1206

Contents: Part I, Clinical considerations: Introduction, by H. C. Solomon. Psychosurgery—a review of recent literature, by M. Green-

blatt. Evolution of psychosurgery technic, by D. Falrman. Technic and complications of the standard prefrontal lobotomy by J. L. Poppen. Postoperative behavior by A. S. Rose. Nursing procedures and problems, by R. Bradford. One to four year follow up of 205 cases of bilateral prefrontal lobotomy by R. Arnot and others. The lobotomized patient during the first year at home (social problems in 35 cases) by H. Bradman. Sexual behavior after lobotomy by J. Levine and H. Albert. Problems in rehabilitation of patients after lobotomy by R. W Hyde and others. The results of unilateral and bimedial lobotomy; pilot study by J. S. Bockoven and M. Greenblatt. Illustrative cases of lobotomy by M. Greenblatt and J. S. Bockoven. Part II, Special studies: Anatomical study of lobotomy by P Yakovlev and others. Corticospinal fluid changes after bilateral prefrontal lobotomy by W J Beckowski and H. Mannich. Relation of the frontal lobe to autonomic nervous system in man, by M. Rinkel and others. The effect of lobotomy and of electrical stimulation of the orbital surface of frontal lobes upon respiration and blood pressure in man, by W P Chapman and others. Lobotomy and urinary bladder by M. Rinkel and others. Skin temperature changes after unilateral and bilateral prefrontal lobotomy by D Falrman and others. Measurement of motor withdrawal reaction in patients following frontal lobotomy by W P Chapman and others. Lobotomy for the relief of intractable pain, by J. R. Dynes. Electroencephalographic and clinical effect of prefrontal lobotomy with consideration of postlobotomy convulsive seizures, by S. Levin and others. Psychometric changes following lobotomy by C. R. Atwell. Application of sociometric technic to the study of lobotomized patients, by J S. Bockoven and R. W Hyde. Occupational therapy for lobotomy cases, by R. W Hyde and A. C. Wood. Part III: Summary by M. Greenblatt and H. C. Solomon. Index.

Note: This book is a collection of special studies based on the experiences with lobotomy at the Boston Psychopathic Hospital since the use of this procedure was initiated at this hospital in 1943. All of the studies bear directly or indirectly on the results of lobotomy in specific cases. The techniques used in analyzing results are carefully described. Excerpts from numerous case histories are included. In the summary at the end of the book the overall experience with 500 patients is discussed under the following subheadings: immediate post-operative changes, autonomic nervous system, response to pain, electroencephalogram studies, psychological studies, changes in work behavior, clinical investigations, indications, and specific indications for lobotomy. Literature references are supplied for most of the chapters.

GRINKER, ROY RICHARD, AND PAUL C BUCY

Neurology Fourth edition. Springfield Illinois Charles C Thomas 1949 1138 p. illus. 26 cm. $12 50 1207

Contents. Technic of neurological examination. The spinal roots and nerves. Tumors of the peripheral nervous system and spinal cord. The vegetative nervous system. The brain stem and the cranial nerves. The motor system. The cerebrum. Intracranial tumors. The cerebrospinal vascular system. Inflammatory and infectious diseases of the nervous system. Degenerative diseases. Developmental defects. Syphilis of the nervous system. Trauma of the central nervous system. The epilepsies. Exogenous toxins and noxious agents affecting the nervous system. The myopathies. Headaches. Bibliography. Index.

Note: (3374) A widely used medical college textbook in which the subject is covered from the standpoint of clinical medicine. The third edition appeared in 1943. This is the first edition written with a coauthor. Much reorganization and revision is evident both in the text, illustrations, and bibliography. The book is sufficiently comprehensive and documented to make it useful to graduate physicians who are not specialists in neurology but find themselves in need of a survey and reference book.

HAMBY WALLACE BERNARD

Intracranial aneurysms. Springfield, Ill. Charles C Thomas, 1952 564 p. illus. 25 cm. $14.25 1208

Contents: The cerebral circulation. General considerations. Diagnosis of intracranial aneurysms. Intact intracranial aneurysms. Ruptured intracranial aneurysms. Arterio-venous aneurysms. General remarks concerning intracranial vascular surgery. Bibliography. Author index. Subject index.

Note: The author, Professor of Neurological Surgery at the University of Buffalo School of Medicine, wrote this book with the aim to give the physician, and particularly the surgeon, a large collection of data on intracranial aneurysms. The information presented has been gathered in a wide search of the literature. Forty eight case reports and numerous illustrations, many of them presenting excellent X-ray photographs, are incorporated in the text. The bibliography at the end of the volume is international in scope and gives full citations of 700 papers.

HICKS SAMUEL PENDLETON AND SHIELDS WARREN

Introduction to neuropathology New York McGraw Hill Book Company Inc., 1950 494 p. illus. 26 cm. $12.50 1209

Contents: Reaction patterns in tissues of the nervous system. Circulatory disturbances, cerebral vascular accident. Disturbances of the cerebrospinal fluid and intracranial pressure relationships. Inflammatory diseases of the nervous system. Metabolic, toxic, and degenerative diseases. Mechanical injuries of the nervous system. Tumors of the nervous system. Maldevelopments and anomalies, mental diseases, epilepsy. Index.

Note. Among the outstanding features of this work are a relatively brief text and a relatively large number of illustrations. The authors emphasize the viewpoint that the pathology of nervous tissue is not a separate field from general pathology. They state, "the belief that nervous tissue has a set of pathological laws quite different from all other organs is not any more true than it would be in the case of the heart opposed to the kidney." In discussing such topics as vascular accidents of the brain, they deal with the mechanisms as well as the pathological lesions. Most of the illustrations are reproductions of photographs of microscopic and macroscopic specimens. Literature references are included. The authors are faculty members of the Department of Pathology of Harvard Medical School.

HIMWICH HAROLD EDWIN

Brain metabolism and cerebral disorders. Baltimore The Williams & Wilkins Company 1951 451 p illus. 24 cm. $6 00 1210

Contents: Part I, Energetics: Introduction. Foodstuff of the brain. Mechanisms for maintaining the carbohydrate supplies of the brain. Mechanisms maintaining brain metabolism during hypoglycemia. The oxidation of carbohydrate in the brain. Aspects of cerebral circulation. Cerebral metabolism during growth of lower mammals—a biochemical basis for neurophylogenesis. Human cerebral metabolic rate. Therapeutics and their application to brain metabolism. Part II, Patterns of nervous activity: The somatic division of the central nervous system—studied through the symptoms of hypoglycemia and acute anoxia. The autonomic division of the central nervous system—pattern of activity in the five phyletic layers. The barbiturates and some other depressant drugs—a classification of clinical signs and theory of narcosis. Prospects and problems for the future. Bibliography. Index.

Note: In this monograph recently developed techniques for the study of the metabolism of the brain and the measurement of cerebral metabolic rates are described, the accumulated information on brain metabolism is stated and discussed in some detail; then the significance of brain metabolic rates and their possible control by drugs are related to cerebral disorders and their treatment. The work is a survey of progress to date and an examination of its significance rather than a definitive statement of principles and practice. The bibliography lists 1043 pertinent books and papers. The author is Chief of the Clinical Research Branch, Medical Division of the Army Chemical Center Maryland.

INTERNATIONAL POLIOMYELITIS CONGRESS

Poliomyelitis papers and discussions presented at the first International Poliomyelitis Conference. Philadelphia J B Lippincott Company 1949 360 p. illus. 27 cm. $5.00 1211

Contents: Session one, The importance of poliomyelitis as a world problem: Epidemiologic patterns of poliomyelitis in different parts of the world, by A. B. Sabin. Economic aspects of the management of poliomyelitis, by H. J Seddon. Session two, Poliomyelitis—pathogenesis of the early stage. The evolution of signs and symptoms of poliomyelitis, by L McQuarrie. Poliomyelitis—pathologic anatomy by D. Bodian. Some aspects of the pathologic physiology of poliomyelitis, by F Bucklahl. Session three, The management of poliomyelitis—the early stage. Diagnosis and treatment of poliomyelitis in the early stage, by J A. Anderson. Session four, Poliomyelitis—the convalescent stage. The progressive pathology of poliomyelitis, by E T Bell. Progressive disabilities in poliomyelitis, by A. L. Watkins. Progressive deformation in poliomyelitis, by R. K. Ghormley and C. S. Allen. Session five, The management of poliomyelitis—the convalescent stage: The management of poliomyelitis

—the convalescent stage, by W T Green. Session six, Problems of rehabilitation The management of poliomyelitis—the late stage, by J S. Barr Session seven, Bulbar poliomyelitis: Bulbar poliomyelitis—pathologic aspects, by K. T Neuberger N urologic signs of bulbar poliomyelitis, by A. B Baker. Outline of essential treatment of bulbar poliomyelitis, by J. L. Wilson. Session eight, Immunology and chemotherapy in poliomyelitis: Mechanisms of immunity in poliomyelitis, by I. M. Morgan. Immunologic types of poliomyelitis viruses, by J R. Paul. Experimental chemotherapy of poliomyelitis, by R. N Bieter and H. N Wright. Session nine, Public health aspects of epidemic poliomyelitis: Public health measures, by J. G. Molner Hospitalization for the poliomyelitis patient, by C. W Munger The families of children with poliomyelitis, by E. P Rice. Session ten, Poliomyelitis throughout the world. Index.

—— —— Papers and discussions presented at the second International Poliomyelitis Conference. Philadelphia J B Lippincott Company 1952 555 p. illus. 27 cm. $7 50 1212

Contents (abridged) Symposium one, Virus and its interaction with the host cell Viruses as organisms, by C. H Andrewes. Viruses as chemical agents, by W M. Stanley Virus and its interaction with the host cell—biochemical aspects, by F C. Bawden. Virus multiplication and variation, by M. Delbrück. External factors influencing virus, by F L. Horsfall, Jr Review one, Pathology and pathophysiology of poliomyelitis: The multiplication and properties of poliomyelitis viruses in cultures of human tissue, by J F Enders. Functional organization in the spinal cord, with particular reference to the normal and disordered response of motoneurons, by D. P C. Lloyd Virus and host factors determining the nature and severity of lesions and of clinical manifestations, by D Bodian. Some recent studies of skeletal muscle in anterior poliomyelitis and other neuromuscular disorders in man and the experimental animal, by R. E. M. Bowden The motor unit in poliomyelitis, by P Buchthal. Symposium two, The Coxsackie group of viruses. The Coxsackie viruses—isolation and properties, by G. Dalldorf. Immunology epidemiology and clinical aspects of Coxsackie virus infection by E. C. Curnen Symposium three, Differential diagnosis in acute poliomyelitis Differential diagnosis in paralytic poliomyelitis, by R Debré and S. Thieffry Laboratory aspects of the differential diagnosis in acute poliomyelitis, by J E Smadel and C. V Adair A specific complement-fixation for poliomyelitis, by J Casals. Immunologic classification of the poliomyelitis virus, by J. Salk. Review two Treatment of poliomyelitis: Management of respiratory insufficiency by J L. Wilson. Reconstructive surgery of the upper extremity by H. J Seddon Surgical rehabilitation of the hand disabled by poliomyelitis (with emphasis on the restoration of pinch) by C E Irwin. Correction of scoliosis, by J. R. Cobb Physical medicine in poliomyelitis—points of emphasis, by R. L. Bennett. Social problems of poliomyelitis, by A. Bruun. Psychological aspects of poliomyelitis, by M. Seidenfeld. Symposium four Immunity and resistance in poliomyelitis and other virus infections Antibodies and immunity to poliomyelitis, by H A. Howe. Latent survival of viruses and persistence of immunity by J L. Melnick Factors which influence the clinical course of poliomyelitis, by W R. Russell Inoculation procedures as provoking factor in poliomyelitis, by A B Hill Review three, Epidemiology of poliomyelitis Extrahuman sources of poliomyelitis, by J H. S Gear Distribution of poliomyelitis virus in community by T Francis, Jr The epidemiologic pattern of poliomyelitis in Sweden from 1905 to 1950, by O Olin Knowledge and trends in poliomyelitis—a summary by J R Paul Scientific exhibits Index

Note The scope of these books is obvious from their titles and the tables of contents. Many of the papers are summaries of recent research or original presentations of data gathered from recent experience Transcripts of discussions are included In the first volume the final part consists of short summaries of poliomyelitis experience in the various countries of the world In the second volume the final section is reproduction of scientific exhibits shown at the conference.

MAYFIELD, FRANK H.

Causalgia. Springfield Illinois Charles C Thomas, 1951 65 p illus 22 cm. (American lecture series Publication 58 A monograph in American lectures in neurosurgery edited by Michael E deBakey and R. Glen Spurling Neurosurgical division editor Barnes Woodhall) $2.25 1213

Contents: Introduction. Material. Incidence Symptoms and signs. Differential diagnosis. Pathology Treatment Surgical technique—surgical sympathectomy of the arm—surgical sympathectomy of the leg. End results. Causative mechanism. References. Index.

Note A compact presentation of the information available on causalgia, the symptom complex set off "by wounds to peripheral nerves. The basis of the study is data from 105 cases of true causalgia seen in military service and treated by sympathectomy and lesser number of cases treated in civilian practice. The military cases are summarized and tabulated as are the results of survey of former medical officers in Army neurosurgical centers. The balance of the book is concerned with diagnosis, treatment, illustrations of techniques, and consideration of the many opinions on the condition and its treatment.

METTLER, FRED A., editor

Problems of the human brain. Selective partial ablation of the frontal cortex a correlative study of its effects on human psychotic subjects. By The Columbia-Greystone Associates. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1949 517 p. illus. 26 cm. $10 00 1214

Contents Section I, Introduction Nature of the project, by F A. Mettler and M. A. Curry Prognostic expectations of the patients under ordinary institutional care, by H. A. Cotton, Jr and E Frankel. Institutional management and social implications, by M. A. Curry and H. A. Cotton, Jr Surgical procedure, by J. L. Pool and others. Cytoarchitecture, by F A. Mettler. Section II, Medical survey: General medical condition and laboratory findings, by R. G. Heath and others. Laboratory findings, by C. M. Sagert and others. Audiometric findings, by P J. Gamboli. Vestibular function, by L. A. Sheppard and others. Visual apparatus: visual fields and acuity, color vision, autokinesis, by R. G. Heath and others. Gastrointestinal motility by D G. Melvin. Electroencephalography by J. F Zimmerli Section III, Psychological investigation Design of the psychological investigation, by J Zubin. Intellectual function, by H. E King. Learning and retention, by A. K. Stauffer Ability to abstract, by W R. King Word association experiments, by S. R. Riddick. Time judgment, by J Chasen. Critical flicker frequency by K. H Young Affectivity by M. Garrison, Jr. Rorschach test, by J. Zubin. Other tests, by R. M. Reschley and others. Test results one year after operation, by C. Landis, and others. Psychologic changes following topectomy by C. Landis. Section IV Psychiatry—neurology—pathology: Psychiatry by R. G. Heath and others. Neurology by J L. Pool and others. Pathology by A. Wolf and D. Cowen Section Summary Anatomy and physiology by F A. Mettler. Psychology by C. Landis. Psychiatry by R. G. Heath Bibliography Index.

Note The findings of cooperative investigation set up "to discover whether technically improved and less drastic neurosurgical approaches to the therapy of the mentally ill would yield results as satisfactory as, or better than, those obtained by lobotomy" are presented in this work. The study was scientifically planned and involved the use of control group. Topectomy was the operation particularly studied however, the study was broad one and much information on other aspects of surgical therapy in mental disorders is included in this report.

MOENCH LOUIS GARDNER

Headache. Second edition. Chicago The Year Book Publishers Inc. 1951 217 p. illus. 21 cm. (The general practice manuals) $4 50. 1215

Contents Pathologic anatomy and physiology of headache. Headaches from intracranial pathology spinal puncture and ventriculography Cranial nerve neuralgias. Headache of ocular origin. Headache of nasal origin. Headache from pathology in the neck and scalp. Headache from systemic disorders. Histamine headaches. Migraine. Headache of emotional origin. Index.

Note (1050*) A useful and authoritative manual intended for the information of general medical practitioners. Each chapter is summary of the current knowledge on incidence, physiology, diagnosis, and treatment of type of headache, and is supplemented by literature references In this edition the revisions are not major and consist chiefly of references to new treatments reported in the literature since 1947

MUNRO DONALD

The treatment of injuries to the nervous system. Philadelphia W B Saunders Company 1952 284 p. illus. 24 cm. $7.50. 1216

Contents: The central nervous system. The treatment of injuries to the cranial nerves. The treatment of injuries to the spinal roots. The treatment of injuries to the peripheral nervous system. The treatment of injuries to the autonomic nervous system. The effect of spinal anesthesia on the central nervous system. Emergency operations and other surgical procedures. The cost of medical care in paraplegia and how it may be modified by rehabilitation services. The responsibility of the hospital trustees and staff. Rehabilitation. Bibliography Index.

Note: A concise treatise designed for the information and guidance of general surgeons and general practitioners rather than specialists. It is devoted mainly to therapies which have been successfully used in the Department of Neurosurgery of the Boston City Hospital, of which department the author is Surgeon-in-chief. Diagnosis, prognosis, and the applicable therapies are covered. Complications are discussed. The importance of rehabilitation is indicated, but the techniques are not covered. The bibliography lists papers on procedures of interest but with which the author has had no direct experience.

NIELSEN JOHANNES MAAGAARD

A textbook of clinical neurology Third edition, revised and reset. With 212 illustrations. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1951 709 p. illus. 28 cm. $10.00 1217

Contents: Diseases of the spinal nerves. Structures between the nerves and the spinal nerves. Diseases of the spinal cord. Diseases of the cranial nerves. Syndromes of the brain stem. Syndromes of the cerebellum. Syndromes of the thalamus. Diseases of the corpus striatum and subthalamic region. The vegetative nervous system. Clinical cerebral localization. Inflammations and intoxications. Intracranial and spinal tumors. The epilepsies. Migraine and headaches in general. Multiple sclerosis. Trauma to the brain and spinal cord. Diseases manifesting themselves in the muscles or myoneural junctions. Degenerative diseases of the nervous system and the leuko-encephalitides. Idiocy imbecility and other congenital defects. Diseases of bone affecting the nervous system. Vitamins and avitaminoses. Electroencephalography Intracranial angiography The psychoneuroses. Addiction. Landmarks in clinical neurology Index.

Note: (1032*) Clinical aspects are given primary emphasis in this established text for medical college students. The background anatomy and physiology are outlined concisely and most of the space is devoted to descriptions of diseases, diagnosis, and therapies. Although written for students, the conciseness of the writing, the specific descriptions of diseases, and the literature references make useful survey and reference book for medical graduates who are not specialists in neurology In comparison to the preceding edition, chapters have been added on intracranial angiography and the psychoneuroses, and several other chapters and sections, notably those on epilepsy poliomyelitis, and syphilis, have been rewritten.

PENFIELD WILDER, AND KRISTIAN KRISTIANSEN

Epileptic seizure patterns. A study of the localizing value of initial phenomena in focal cortical seizures. Springfield Ill. Charles C Thomas, 1951 104 p. illus. 22 cm. $3 75 1218

Contents: Introduction and case classification. Historical note. Material. Seizure patterns: Initial unconsciousness—Initial motor phenomena—Initial sensory phenomena—Initial autonomic motor and sensory phenomena—Psychical phenomena—Miscellaneous phenomena. Summary Clinical application. References. Case index. Subject index.

Note: In this short monograph the authors discuss the value of seizure patterns in determining the region of the brain in which epileptic discharge occurs. The work is based on series of 219 cases of focal epilepsy studied and operated on by them and their colleagues. The cases were studied thoroughly by "preoperative electroencephalography operative electrocorticography craniotomy under local anesthesia, electrical stimulation of the cortex, local cortical excision and postoperative observation. Location of the discharge in the cortex was established in 123 of the cases The book complements their *Epilepsy and cerebral localization*, Springfield, 1941.

SCHWAB ROBERT SIDNEY

Electroencephalography in clinical practice. Philadelphia W B Saunders Company 1951 195 p. illus. 25 cm. $6 50 1219

Contents: Historical summary The relation of neurophysiology to electroencephalography The normal and abnormal electroencephalogram. Technique. The electroencephalogram in epilepsy The electroencephalogram in neurological and neurosurgical problems. Electroencephalography in psychiatry The electroencephalogram in research. Laboratory organization, training of staff, and interpretation of records. Glossary Index.

Note: The uses and limitations of electroencephalography its techniques, and the characteristic features of electroencephalograms, form the main subject matter of this book. Its purpose to inform nonspecialists, particularly general practitioners, neurologists, and psychiatrists, about electroencephalography The 106 figures include reproductions of many electroencephalograms. The author is Director of the Brain Wave Laboratory of the Massachusetts General Hospital.

WARTENBERG ROBERT

Hemifacial spasm a clinical and pathophysiological study Foreword by Macdonald Critchley New York Oxford University Press, 1952 86 p. illus. 22 cm. $4 00 1220

Contents: Hemifacial spasm—clinical features. Etiology of hemifacial spasm. Nuclear origin of hemifacial spasm. Cryptogenic hemifacial spasm and facial paralysis. Hemifacial spasm and spastic syndrome. Hemifacial spasm—a release phenomenon. Causes of release. Summary and conclusions. Bibliography Index.

Note: A small, carefully written monograph based both on clinical observation and study of the pertinent literature. The author reviews critically the observations and theories of other investigators and finally draws conclusions of his own, the chief of which is that "hemifacial spasm is an organic disease of the nervous system and usually is not caused by reflex stimulation of the facial nerve. There is bibliography of about 100 references.

WECHSLER, ISRAEL SPANIER

A textbook of clinical neurology, with an introduction to the history of neurology Seventh edition illustrated. Philadelphia W B Saunders Company 1952 801 p illus. 24 cm. $9.50 1221

Contents (abridged) I. Methods of examination: Neurological examination and the interpretation of signs and symptoms Psychological diagnosis, by D Wechsler. II, The spinal cord: Acute anterior poliomyelitis (infantile spinal paralysis) Family periodic paralysis. Compression of the spinal cord. Injuries to the spine and spinal cord Vascular disorders of the spinal cord Muscular atrophies (the amyotrophies) III, The peripheral nerves: Neuritis and neuropathy Diseases of the spinal nerves and plexuses. Tumors of nerves; neuromas Diseases of the cranial nerves. Neuralgias. IV The brain: General symptomatology and focal or regional diagnosis Diseases of the brain Aphasia Circulatory disturbances of the brain. Meningitis. Encephalitis Chorea (Sydenham's chorea, St. Vitus dance). Syphilis of the nervous system. Tumors of the brain. Injuries of the brain Disorders of motility and diseases of the basal ganglia. The epilepsies and the convulsive or paroxysmal state. The migraines or paroxysmal headaches (hemicrania) Affections of the autonomic nervous system Neuroses: Classification of the neuroses. Clinical manifestations of the neuroses Treatment of the neuroses. Trauma and the nervous system. Index.

Note (1034*) A widely used textbook and reference manual of the neurological conditions which are of clinical interest. Historical material is collected in one chapter and case reports are lacking. Most of the space is devoted to concise discussions of symptoms, diagnoses, treatment, and other relevant aspects of wide variety of neurological syndromes. This seventh edition is an extensive revision with many changes in text, illustrations, and bibliographies.

YEAR BOOK OF NEUROLOGY AND PSYCHIATRY

The 1951 year book *of* neurology *and* psychiatry (November 1950–October 1951) Neurology edited by Roland P Mackay Psychiatry edited by Nolan D C. Lewis. Chicago The Year Book Publishers, Inc. 1952 356 p. illus. 20 cm. $5 50 1222

Contents Neurology Introduction Physiology Pathology Trauma. Infectious diseases. Vascular disturbances. Degenerative diseases. Tumors of the brain. Tumors of the spinal cord. Epilepsies, Cranial and spinal nerves. Diagnosis and therapeutic methods. Psychiatry:

Introduction. General topics. Child psychiatry. Schizophrenia, affective disorders and miscellaneous reactions. Organic disorders and toxic reactions. Psychoneuroses and psychosomatic disorders. Therapy. Index. Index to authors.

Note (1039*) This annual publication is edited and organized similarly to the other annuals in the same series. The chapters consist of abstracts of articles selected from the world medical periodicals during the period noted in the title. A footnote reference to the original publication is given in all cases. The abstracts are long enough so that it is possible in most instances to describe the original author's findings in considerable detail. In many instances there is also a note by the editor in which the findings are evaluated or related to other studies in the same area.

OPHTHALMOLOGY

BERENS, CONRAD editor

The eye and its diseases By 92 international authorities. Second edition with 436 illustrations eight in color Philadelphia W B Saunders Company 1949 illus. (part col d) *1092 p. 26 cm.* $16.00 1223

Contents (abridged) I, Embryology anatomy and postnatal development of the eye II, Physiology and physiologic optics: Physiology of the eye, by L. H. Leopold. Physiology of vision, by F B. Walsh. Physiologic chemistry of the eye, by A. C. Krause. Accommodation, by W H. Luedde. III, Examination of the eye. Visual acuity by F C Keil, Jr Ophthalmoscopy by L. H. Hardy Tonometry by P C Kronfeld The color sense and its derangements, by B Chance. Transillumination or diaphanoscopy by C. E. G. Shannon and W T Hunt, Jr Gonioscopy by M. Uribe Troncoso. IV Refraction and accommodation Diagnosis and treatment of errors of refraction, by D H O'Rourke. Asthenopia, by K. M. Ogle. Anomalies of accommodation, by W H. Luedde. Diseases of the eye Diseases of the orbit, by W L. Benedict. Diseases of the conjunctiva, by P Thygeson. Trachoma, by K. Lindner Diseases of the sclera, by F B. Fralick. Diseases of the vitreous, by W E. Fry Glaucoma, by H S. Gradle, revised by Sir S. Duke-Elder VI, Medical ophthalmology Tuberculosis of the eye, by B. Samuels Ocular syphilis, by J H. Waite. VII, Movements of the eyeballs and their anomalies. VIII, Injuries of the eye. IX, The eye and the nervous system X, Treatment Surgery of the eye, by F C. Cordes and G S Campion. Anesthesia, by C. S. O'Brien. Operations on the eyelid and plastic surgery by E. B. Spaeth. Operations on the cornea, by M. Wiener Operations on the retina, by M. Amsler Operations for glaucoma, by D Vail. Operations on the ocular muscles, by W B Lancaster Surgery of the orbital cavity by E L. Goar XI, Preventive ophthalmology XII, Immunology XIII, Legal aspects of ophthalmology XIV Laboratory diagnosis Index

Note There are 76 chapters in the present edition of this lengthy treatise. A majority of the contributors are United States of America citizens but the medical profession of several countries is represented. The typical chapter is a concise but useful presentation of the essential clinical information, supplemented by an extensive list of references to the international literature. Both medical and surgical therapies are covered. A considerable range of important material has been added in this edition. Some of the chapters are new and many of them have been revised. There are new illustrations, and references to the recent literature have been added to the bibliographies. The first edition was published in 1936.

FRIEDENWALD, JONAS S , AND OTHERS

Ophthalmic pathology an atlas and textbook. By Jonas S Friedenwald, Helenor Campbell Wilder A. Edward Maumenee, T E Sanders, John E L. Keyes Michael J Hogan, W C and Ella U Owens. With the editorial assistance of Helen Knight Steward. Published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology Philadelphia W B Saunders Company 1952 489 p. illus. *29 cm.* $18.00 1224

Contents. Introduction—anatomic and physiologic considerations. Histology Growth and aging. Nature and mechanism of inflammation. Endophthalmitis and phthisis bulbi. Focal lesions in endogenous endophthalmitis. Granulomatous inflammations. Injuries. Extrabulbar diseases. Diseases of conjunctiva and cornea. Diseases of the lens. Intraocular fluid circulation, glaucoma and hypotony. Diseases of the ocular blood vessels. Retina, optic disc and optic nerve. Congenital and developmental anomalies. Prenatal and neonatal diseases. Heredofamilial and degenerative diseases. Tumors. Index.

Note. A well-sponsored work designed for use as a teaching aid at the graduate level. The atlas portion consists of 214 plates, most of which contain reproductions of several microphotographs. The text is an authoritative statement—based on the literature—of the current knowledge of pathology of the eye. The book is put together so that appropriate sections of the atlas are bound between text chapters, hence related parts of the text and the atlas are adjacent to one another. The pictorial material has been drawn from the Registry of Ophthalmic Pathology a division of the American Registry of Pathology. The illustrations are clearly reproduced.

HOGAN, MICHAEL JOHN

Ocular toxoplasmosis. New York Published for the American Ophthalmological Society by Columbia University Press 1951. 86 p illus 24 cm. $2 75 1225

Contents Introduction. Toxoplasma. Clinical manifestations. Clinical ocular manifestations. Histopathology. Diagnosis of toxoplasmosis. Serologic diagnosis. Differential diagnosis. Treatment of toxoplasmosis. Relationship between toxoplasmosis and uveitis. Case reports. Ocular findings in experimental toxoplasmosis. Therapeutic effect of drugs and antibiotics against toxoplasma. Discussion. Summary. References.

Note A monograph based both on the literature and on original studies carried out by the author. One of its features is a tabulated list of ocular findings in 78 cases of proved or probably congenital toxoplasmosis which have been reported in the literature. Detailed case reports are included for six cases. Among the author's conclusions is "a positive diagnosis of toxoplasmosis may be made on the basis of clinical findings plus isolation of toxoplasma from body fluids or observation of the parasite in suspected tissues. The monograph contains much information on diagnostic techniques.

LANCASTER, WALTER B

Refraction correlated with optics and physiological optics and motility limited to heterophoria. Springfield, Illinois Charles C Thomas, 1952 310 p illus. 24 cm. $7 75 1226

Contents (abridged) Part I, Optics and physiological optics Light—condensation of lenses. Shadows—reflection by plane surfaces —image formation by mirrors—magnification. Refraction of light. Refraction by curved surfaces. Cylindrical lenses. Prismatic effects of lenses. The eye as an optical instrument. Accommodation. Range of lenses. Part II, Errors of refraction and motility: Myopia. Hypermetropy Part II, Errors of refraction and motility: Myopia. Hypermetropia. Astigmatism. Measurement of ametropia. Subjective methods. Presbyopia. Ocular motility an essential part of subjective technique Vergence. Classification of phorias as a basis for treatment. Eyestrain. Appendix. Index.

Note In this book the author has related refraction and motility to the daily work of the graduate ophthalmologist. The book is intended as a supplement to standard treatises and therefore devotes little space to aspects that are in the authors' opinion adequately treated in other works. The treatment of lenses optics is selective and is related as directly as possible to the eye and to spectacle lenses. His discussions of such ophthalmological conditions as presbyopia are couched in the terminology of ophthalmologic office practice.

MAY CHARLES HENRY

May's manual of the diseases of the eye, for students and general practitioners. Twentieth edition, revised and edited by Charles A. Perera. With 378 illustrations including 32 plates, with 93 colored figures. Baltimore Williams & Wilkins Company 1949 512 p. illus. (part col d) *20 cm.* $5 00 1227

Contents (abridged) External examination of the eye and its adnexa. Subjective or functional examination of the eye. Objective examination of the eye conducted in the dark room. Oblique illumination, the ophthalmoscope, transillumination and the corneal microscope with slit-lamp. Affections of the eyelids. Diseases of the

lacrimal apparatus—the orbit—the conjunctiva—the cornea—the sclera—the iris—the ciliary body—the choroid. Perforating wounds of the globe. Intraocular tumors. Glaucoma. Diseases of the vitreous—the lens—the retina—the optic nerve. Amblyopia. Optical consideration of the eye. Errors of refraction. Disturbances of motility of the eye. Ocular therapeutics. General rules for eye operations. The ocular manifestations of general diseases. Appendix: Ocular requirements for entrance into the Army Navy Marine, Coast Guard and Air Services of the United States. Index.

Note: (1070*) A concise manual for medical students and general practitioners of medicine rather than for specialists. It has been standard work since the appearance of the first edition in 1900 and it has been translated into many languages. In this edition the text has been thoroughly revised and the type from which the book is printed was reset. The length and the scope are essentially the same, but there is much new material and a number of new illustrations. The reviser is a member of the faculty of the College of Physicians and Surgeons of Columbia University

PASCAL JOSEPH IRVING

Studies in visual optics. St. Louis The C. V *Mosby Company 1952 800 p. illus. 22 cm.* $12.50 1228

Contents (abridged) Lenses—physical and optical properties. Transposition of lenses. Toric lenses. The radian method in ophthalmic calculations. A physiological approach to refractive errors. Ophthalmic calculations by the "dual" formula. Observations on visual and orthoptic exercises. A non-geometric exposition of the theory of retinoscopy. Principles and application of cylinder retinoscopy. Specialized techniques in the practice of retinoscopy. The concept of reduced vergence, reduced power and reduced distance. Axes and angles of the eye. The cardinal points and planes. Some observations on myopia. Calculating stereoscopic vergence. The stereoscope as an aid in the correction of esotropia. The mechanism and measurement of accommodation. The mechanism and measurement of convergence. Binocular duction tests and their significance. A new approach to cross cylinder tests. Cross cylinder methods vs. line chart methods. True and spectacle correction of esotropia. Self-correction vs. lens correction in hyperopia. Specialized training of the visual functions. Refraction by prisms. Refraction by spherical surfaces. Refraction by thin lenses. Thick lenses and lens combinations. Lens form relative to lens power. Optical oddities of contact lenses. Optical and visual effects of tilted lenses. A graphic study of the ocular muscles. Diplopia fields as charted from tangent ring. Appendix. Index.

Note. Altogether there are 44 chapters in this book which is not a systematic treatise but a collection of writings on various topics. The wide range of topics is obvious from the selected titles given above. The author states, "I have chosen a number of topics which I felt needed clarification, and/or a new interpretation and/or considerable amplification." Some of the chapters, for instance that on the "dual" formula, offer useful short cuts, others such as the one on "Optical oddities of contact lenses" attempt to clear up points that are poorly understood or misunderstood by ophthalmologists. The book is of interest primarily to graduate ophthalmologists and optometrists.

PROGRESS IN OPHTHALMOLOGY AND OTOLARYNGOLOGY a quadrennial review Volume I. Part One—Ophthalmology edited by Meyer Wiener and A. Edward Maumenee. Part Two —*Otolaryngology edited by* Percy E. Ireland and Joseph A. Sullivan. New York Grune & Stratton 1952 666 p. illus. 24 cm. $15.00 1229

Contents (abridged) I, Basic science in ophthalmology: Anatomy and embryology, by J J Prendergast. Biochemistry pharmacology and toxicology of the eye, by W M Grant. Congenital anomalies, by A. M. Yudkin. Electrophysiology of vision, by S. H Bartley. II, Diagnosis and treatment of diseases of the eye: The lids and lacrymal apparatus, by A. Callahan. Conjunctiva, by J. G. Bellows. Contact and corneal lenses, by M W Nugent. Retrolental fibroplasia in premature infants, by W. C. Owens and E. U Owens. Orbital lesions, by J W Bettman. Recent advances in the treatment of glaucoma with autonomic drugs, by G. R. Koelle. Tumors, by J. S McGavic. Progress in neuro-ophthalmology, by M. Fine. ACTH and cortisone therapy in ophthalmology, by J McLean. Antibiotics in ocular infection, by A. E Braley. III, Surgery of the eye: Recent advances in surgery of the eye, by R. Y Alvis and E. B. Alvis. The use of fibrin coagulum in ocular surgery, by A. L. Barnes. Enucleation and the newer implants, by N L Cutler. IV, Related subjects in ophthalmology: Industrial ophthalmology since World War II, by H. S. Kuhn. Education and rehabilitation of the blind, by M. B. Frampton. I, The ear: Otitis media with effusion, by G. D. Hoople. Recent advances in the use of labyrinthine tests, by W J McNally and E. A. Stuart. Theories of hearing, by M. H. Lurie. Progress in the surgical treatment of otosclerosis, by J. A. Sullivan and J. E. R. Smith. Surgery of Ménière's disease, by F D Lathrop. Recent advances in the surgical treatment of facial paralysis and Bell's palsy, by J. A. Sullivan. The problem of noise in industry, by H. P House. Therapeutic and toxic effects of streptomycin and other antibiotics on the ear, by A. Glorig. II, Nose, sinuses and nasopharynx: Nasal cilia and nasal mechanisms, by G. E. Tremble. Treatment of acute frontal sinusitis, by R. L. Goodale. The modern conception of headache, by L. R. Boies. X-ray findings in malignancy of sinuses, nose and nasopharynx, by A. E. MacMillan and A. S. MacMillan, Jr. III, Larynx, tracheo-bronchial tree and esophagus: Treatment of carcinoma of the larynx, by L. H. Clerf. Recent advances in surgical treatment of lesions of the esophagus, by P. E. Ireland and D. P. Bryce. IV, Allergy: Outline on allergy as related to otolaryngology, by F. K. Hansel. The basis for use of cortisone and ACTH in treatment of otorhinologic conditions, by H. L. Williams. Index.

Note: (1074) A complementary volume to M. Wiener *Ophthalmology in the war years*, Chicago, 1946–48. It covers the developments *reported in the literature from July 1946 through 1951.* Each of the 43 chapters is a concise literature digest accompanied by a bibliography. The purpose of the work is to aid general practitioners of medicine and other medical men in keeping abreast of developments.

SAMUELS BERNARD AND ADALBERT FUCHS

Clinical pathology of the eye a practical treatise of histopathology With 418 illustrations, 191 in full color New York Paul B Hoeber Inc. 1952 420 p illus. (part col d) 28 cm. $20 00 1230

Contents (abridged) General pathology. The cornea. The uvea. The sclera. The lens. The retina. The optic nerve. The vitreous body. Myopia. Tuberculosis. Syphilis. Postoperative pathologic findings and their complications. Injuries. Tumors. Index.

Note: A large collection of microphotographs, of which a considerable number are reproduced in color, is an outstanding feature of this work. These microphotographs are supplementary to rather detailed descriptions of pathological disorders of the eye, and the authors have given special attention to elucidating observations which may be difficult to interpret. For example "a foreign body lying on the retina may simulate a white patch within the tissue. . . . A dark gray splinter of iron may so reflect the light's rays as to appear white." The book is based primarily on the authors' laboratory and clinical experiences in Vienna and New York City

SOMMERS IGNATIUS GEORGE

Histology and histopathology of the eye and its adnexa. New York *Grune & Stratton,* 1949 784 p. illus. 22 cm. $12.00 1231

Contents (abridged) Part one Normal histology of the eye. Embryology of the eye. Senescence of the eye. Part two General pathology in relation to the eye. Part three Histopathology of the eye. Pathology of the cornea. Pathology of the sclera. Pathology of the uvea. Pathology of the retina. Pathology of the optic nerve. Pathology of the lens. Pathology of the vitreous body. Pathology of the conjunctiva. Pathology of the eyelids. Pathology of the lacrimal organs. Pathology of the orbit. Ocular developmental abnormalities. Glaucoma. Myopia. Injuries. Surgery and its complications. Index.

Note: The first two parts of this book on normal histology and on general pathology occupy only 139 pages, whereas 613 pages are devoted to the third part. In the chapters of this part disorders of the various elements of the eye are fully discussed, chiefly in terms of the histology. The organization of the chapters is unconventional. First there is a detailed description, then a concise summary of the pertinent literature identified only by authors' names and, finally a formal bibliography of the international literature. There are only 69 figures, but these are of good quality. According to the author the book is an elaboration of instruction lectures that he gave over a period of years to undergraduate medical students. The bibliographies taken together constitute a fairly comprehensive list of the world literature from 1920 to 1947 but unfortunately the authors' names have not been indexed.

STERN JOHN JACOB

Nutrition in ophthalmology New York The National Vitamin Foundation, Incorpo-

rated 1950 137 p. 23 cm. (Nutrition monograph series. No. 1) $1 50. 1232

Contents: Conjunctiva, cornea and sclera. Lens and aqueous. Retina, optic nerve and visual act. Appendix: Reviews on vitamins in ophthalmology not quoted in bibliography. Subject index.

Note. A statement, based on literature survey of the available knowledge pertaining to the effects of nutrition on the eye. In each of the chapters research findings and recommended treatments are described concisely and referenced to the source articles. The purpose of the book is to make available in convenient form information which is usually omitted or at least not stressed in texts on ophthalmology

TAIT, EDWIN FORBES

Textbook of refraction. Illustrated. Philadelphia W B Saunders Company 1951 418 p. illus. 25 cm. $8 00 1233

Contents (abridged) Ocular relaxation. Accommodation stimulus-response mechanisms. Emmetropia and ametropia. Hyperopia. Myopia. Astigmia. Presbyopia and aphakia. Isometropia and anisometropia. Aniseikonia. Amblyopia. Reading difficulties—alexia and dyslexia. Illumination and photophobia. Preliminary considerations in binocular coordination. Vergence stimulus-response mechanisms. Binocular fusion. Ocular dominance. Retinal correspondence. Ocular muscle anomalies. Orthophoria and heterophoria. Binocular anomalies at the near point. Heterotropia. Keratometry. Skiametry. Static skiametry. Cycloplegics, mydriatics, and miotics. Subjective methods of refraction in normal and subnormal vision. Orthoptics. Accommodation tests. Stereopsis. A system of refraction with interpretation and correlation of data. Index.

Note. The author's critical selection of the material included and his authoritative comments on difficult points in diagnosis and correction are special features of this book. Disorders of refraction and neuromuscular abnormalities are covered comprehensively; but controversial concepts and techniques not yet thoroughly established are omitted from the text though papers on some of these are included in the literature lists. The book is addressed to medical college students who have acquired the basic knowledge of the anatomy and physiology of the eye and of physiological optics. History taking and diagnostic procedures are compactly outlined in the final chapter. The author is Associate Professor of Ophthalmology in Temple University

TOWN ARNO E.

Ophthalmology 208 illustrations and 4 colored plates. Philadelphia Lea & Febiger, 1951 511 p illus (part col d) 24 cm. $10.00 1234

Contents: The objective examination of the eye. *Physiology of vision*, by I. H. Wagman. Correction of optical defects of the eye, by D. Maldoff. The extraocular muscles. The orbit. The lacrimal apparatus. The eyelids. The conjunctiva. The cornea, by I. H. Leopold. The sclera. The uveal tract. The uvea, by W F Duggan. The crystalline lens. The retina. The optic nerve. Glaucoma, by I. H. Leopold. Neuro-ophthalmology by J. Waldman. Ocular changes in general diseases, by A W Howland. Symptomatic diagnosis. Ocular therapeutics. Standing orders for traumatic cases in industrial dispensaries: eye accidents and injuries. Surgery of the eye.

Note. In this concise work the emphasis has been placed upon eye conditions which may come to the attention of the general practitioner in everyday practice and on the eye as a guide to diagnosis and prognosis of systemic infections elsewhere in the body. Over 200 illustrations direct attention to particular malfunctions and methods of diagnosis and treatment. Selected references are inserted at the ends of sections within chapters to aid those desiring more extensive information on the particular subject. The author is Professor of Ophthalmology in Jefferson Medical College, and his contributors are also teachers in the same or closely allied fields.

TRONCOSO MANUEL URIBE

Internal diseases of the eye and atlas of ophthalmoscopy Second edition. 285 illustrations including 94 full-page color plates. Philadelphia F A. Davis Company 1950. 684 p. illus. (part col d) 26 cm. $22 00 1235

Contents (abridged) Part I, Ophthalmoscopy; Methods and technic of ophthalmoscopic examination. Part II, Structural features of the internal eye. The normal fundus. The physiology and pathology of the circulation in the retinal vessels. Part III, The visual field. Field testing (campimetry). General pathology of the visual field. Part IV Anomalies of development. Part V Diseases of the optic nerve. Part VI, Atrophy of the optic nerve: Pressure atrophy. Glaucomatous and nutritional atrophies. Acute neuritis of the retina and optic nerve. Tumors of the optic nerve. Part VII, Vascular diseases of the retina. Part VIII, Diseases of the retina: Retina in diseases of the blood. Congenital systemic maldevelopments and tumors. Part IX, Diseases of macular region, area centralis and allied conditions. Part X, Retinitis in infectious diseases. Part XI, Pigmentary retinitis and allied diseases. Part XII, Retinal detachment, parasites and tumors. Part XIII, Diseases of the choroid. Part XIV Pathological changes in the vitreous body. Part XV Injuries of the choroid, retina and optic nerve. Index.

Note: (1404) A standard textbook in which the author has treated the subject by emphasizing the pathological changes in physiopathology first, then deducing the symptoms from the lesions. The purpose of the method is to show the student the importance of correlating pathology and symptomatology. Descriptions of diseases are briefer than in many texts but they are adequate. The color plates are a feature of particular value. The first edition was published in 1942. In the second edition the work has been enlarged by some 150 pages and now includes new sections on a considerable number of diseases and conditions which were not covered in the first edition. The number of illustrations has been increased somewhat. The author is a member of the faculty of the College of Physicians and Surgeons of Columbia University

PARASITOLOGY AND TROPICAL DISEASES

BELDING, DAVID LAWRENCE

Textbook of clinical parasitology Second edition. New York Appleton-Century-Crofts, Inc. 1952 1139 p. illus. 25 cm. $12.00. 1236

Contents (abridged) Section one, General parasitology: The pathology of parasitic infections. The immunity of parasitic infections. The transmission of parasitic diseases. The diagnosis of parasitic diseases. The treatment and prevention of parasitic diseases. Section two, The protozoa. Section three, The nemathelminthes or roundworms. Section four The Cestoidea or tapeworms. Section five, The Trematoda or flukes. Section six, Arthropoda. Section seven, Technical methods for the diagnosis and treatment of parasitic infections. The examination of parasitic protozoa. The examination of helminths. Serological and chemical methods of diagnosis. The methods of examination of intermediate and reservoir hosts, including mollusks, fishes, birds, mammals and arthropods. Useful drugs in the treatment of parasitic diseases. Insecticides and repellents. Index of authors. Index of subjects.

Note: (1407) In this book designed for the instruction of medical students, public health officials, etc., the zoology of the parasite has been subordinated to the pathology, diagnosis, treatment, and prevention of diseases. This is true though the greater part of the work is arranged by systematic zoological groups. In the discussion of each group and subgroup there is some information on classification and morphology but more space is given to descriptions of life cycles, pathogenicity, treatment, and other aspects of interest in medicine and public health. The material added in the present edition includes recently developed knowledge in the sulfonamides, antibiotics, etc., recently developed diagnostic methods, and new therapeutic agents. The bibliographies and illustrations have been revised. The scaled drawings of the morphology and life cycles of particular parasites which were a feature of the first edition have been retained.

BOYD MARK FREDERICK editor

Malariology a comprehensive survey of all aspects of this group of diseases from a global standpoint. By sixty five contributors. Philadelphia W B Saunders Company 1949 2 v 1237
illus. 26 cm. $35.00.

Contents (abridged) Volume I Section I, Introduction: Historical review by M. F Boyd. Section II, Parasitology: A catalogue of the species of the genus *Plasmodium*, and index of their hosts, by R. Coatney and R. L. Roudabush. Life cycles of the malaria parasites with special reference to the newer knowledge of pre-erythrocytic stages, by C. G. Huff. The human parasites of the genus *Plasmodium*, by ... dson, by E. Brumpt. A photographic atlas of human plasmodia, by L. T ... M. F Boyd. Synopsis of species found in other animals, by R. Coggeshall. Synopsis of species of avian malaria parasites, by R. Boyd Hewitt. Laboratory diagnosis of malaria infections, by M. F Boyd

and others. In vitro methods for study and cultivation of plasmodia, by Q. M. Geiman. Section III, Definitive hosts: Insect vectors, by Col. Sir R. Christophers. Anopheline mosquitoes—morphology in different stages and instars—life history by H. S. Leeson and F A. Buxton. The physiology of mosquitoes, by V B. Wigglesworth. Ecology of anopheline mosquitoes, by M. Bates. Culicine and sabethine mosquitoes and the malaria infections of lower animals, by L. Vargas. Laboratory technics for the study of avian malarias, by R. J. Porter. Technics applicable to experimental infection of birds, by R. Hewitt. Section IV Intermediate host: Epidemiology of malaria—factors related to the intermediate host—factors related to the definitive host, by M. F Boyd. Endemic and epidemic prevalence, by Col. Sir R. Christophers. Volume II. Surveys—epidemiologic and entomologic, by M. F Boyd and others. The pathologic anatomy of malaria, by H. C. Clark and W J. Tomlinson. The physiologic pathology of malaria, by J. D. Fulton and B. G. Maegraith. Immunity in the malaria infections, by W H. Taliaferro. Old and new plasmodicides, by L. T Coggeshall and R. Craige. Prevention of malaria infections by drug prophylaxis, by J. J. Sapero. Treatment of patent infections, by W S. Dove. Induced malaria as therapeutic agent, by F T Becker Section Control and eradication: General considerations in control and eradication, by Sir M. Watson. Species sanitation and species eradication for the control of mosquito-borne diseases, by F L. Soper. Mosquito repellents, by E. F Knipling. Insecticides, by F C. Bishopp. Drainage of mosquito-breeding water collections, by K. H. Magoon and others. Larvicides, by F C. Bishopp. Naturalistic methods of anopheline control, by K. R. Williamson. *Control of malaria in the United States Army*, by J. S. Simmons. Planning for malaria control, by M. F Boyd. Appendices. Indices.

Note: The contributors to this monumental work include authorities of several nations and their papers were written especially for it. The two volumes contain together 70 papers or chapters. Not listed above but nevertheless valuable are three series of six papers each which cover the anophelines, the incidence of malaria, and the control of malaria in the various regions of the world. The appendices contain lists of equipment for field and laboratory investigations, directories of manufacturers and distributors of equipment and supplies for use in antimalaria control. Each chapter is accompanied by extensive references. The indexes are exceptionally full, and the author index includes the names of authors of cited papers.

CHANDLER, ASA CRAWFORD

Introduction to parasitology with special reference to the parasites of man. Eighth edition. New York John Wiley & Sons, Inc. *1949* 756 p. illus. 24 cm. $6.50. 1238

Contents (abridged) Parasites in general. Part I—Protozoa: Spirochetes. Amebae. Intestinal flagellates and ciliates. Hemoflagellates. The Sporozoa. Part II—Helminthology: The trematodes or flukes. The Cestoidea or tapeworms. Acanthocephala (spiny headed worms) Trichinella, Trichuris, and their allies. The hookworms and their allies. Filariae, spirurids, and guinea worms (Suborders Spirurata and Camallanata) Part III—Arthropoda: The Acarina. Ticks. *Bedbugs and other Hemiptera. Lice, Anoplura, and Mallophaga.* Fleas. Diptera. Sources of information. Index.

Note: (2400) A long established introductory text in which biological rather than public health or medical aspects are emphasized. It is used as text for first courses in the subject in medical schools, schools of nursing, etc. In this edition there are many new illustrations, and some of those carried over from previous editions have been redrawn. There are new discussions of such topics as insecticides and insect repellents, arthropod borne viruses, etc. The bibliographies have been revised.

CRAIG CHARLES FRANKLIN AND ERNEST CARROLL *FAUST*

Clinical parasitology With a chapter on "Control of medically important arthropods" by Albert Miller Fifth edition, thoroughly revised, illustrated with 326 engravings and 6 colored plates. Philadelphia Lea & Febiger 1951 1032 p. illus. (part col d) 24 cm. $12.00 *1239*

Contents (abridged) Section General introduction and orientation: The epidemiology of parasitic infections. The disease processes produced by parasites in the human body and their manifestations. Diagnosis, prognosis and treatment of parasitic infections. The geographical distribution of parasitic infections, with special reference to human disease. Scientific nomenclature. Section II, Protozoa and protozoan infection. Section III, Helminths and helminthic infections: The roundworms. The aphasmid nematode parasites of man. The Gordiacea or "hairworms. The morphology biology and classification of the flatworms (Platyhelminthes). The digenetic trematodes of flukes, general considerations. The cestodes or tapeworms of man. The Acanthocephala or thorny-headed worms. The leeches (Hirudinea) Section IV, Arthropods and human disease: The morphology biology and classification of arthropods of medical importance. Insects of medical importance. Biting lice (Mallophaga) and sucking lice (Anoplura) The flies or Diptera. The fleas or Siphonaptera. Insects causing vesication, urtication and venenation of man. Section Technical appendix: Technics and aids for the collection, culture, preparation and identification of parasitic protozoa. Technics and aids for collection, culture, preparation and identification of helminths. Technics and aids for the collection, preparation and identification of arthropods of medical importance. Synoptic tables on diagnosis, recommended treatment and teaching aids in clinical parasitology Section VI, The literature of clinical parasitology Index of authors Subject index.

Note (1078) A long-established comprehensive text for students and reference manual for practitioners, laboratory workers, and directors of diagnostic laboratories. In it are presented the most essential facts regarding symptoms, methods of diagnosis, treatment and control of those parasites which are of clinical and public health interest. The fourth edition was published in 1945. A substantial amount of material has been added in the present edition, reflecting the development of new drugs, new insecticides, and the other advances *made during World War II and subsequently* Also, the recent literature has been added to the extensive, classified bibliography.

FAUST ERNEST CARROLL

Human helminthology A manual for physicians sanitarians, and medical zoologists. Third edition, thoroughly revised with 313 engravings. Philadelphia Lea and Febiger 1949 744 p. illus. 24 cm. $10.00 1240

Contents (abridged) Section I, The scope of helminthology: The phenomenon of parasitism in helminth groups. The zoogeography of helminthic infections. The interrelation of the helminth parasite and its host Control of the helminthic infections of man—the scope of the problem. The scientific nomenclature of helminth parasites. Section II, The Platyhelminthes or flatworms. The trematodes or flukes. The human blood flukes. Trematode parasites of the intestinal tract, biliary passages and lungs. The cestodes or tapeworms. Section III, The Acanthocephala, or thorny-headed worms. Section IV The Nematoda, or true roundworms The aphasmid nematode parasites of man. The phasmid nematode parasites of man. Section The Nematomorpha. The Gordiacea or "hair worms. Section VI, The Annelida: The leeches (Hirudinea) Section VII, Technical aids in the diagnosis and treatment of helminthic infections The basic equipment required for the diagnosis of helminthic infections. The collection, preparation and preservation of helminthological material. The identification and differential diagnosis of helminth parasites, their larvae and eggs. Intermediate and reservoir hosts involved in human helminthic infections. Anthelmintics and their use. Important literature on human helminthology: General literature. Literature on special groups. Author index. Subject index.

Notes (2412) A comprehensive manual which is used both for teaching and for reference The third edition is an extensive revision of the previous edition. New data and concepts have been introduced, including information from findings resulting from investigations conducted during military operations in warm climates during the war years 1942–1945; older information has been re-evaluated. The chapter on Hirudinea (leeches) is new as is glossary of zoological and medical terms contained in the first chapter The bibliography has been substantially increased and brought up to date. Thirty-four new illustrations have been added and many older ones revised and remodeled.

GRADWOHL RUTHERFORD BIRCHARD HAYES AND OTHERS editors

Clinical tropical medicine. R. B H. Gradwohl, editor in-chief Luis Benitez Soto Oscar Felsenfeld, editors. With 473 illustra*tions and 6 color plates.* St. Louis The C. V Mosby Company 1951 1647 p. illus. (part col d) 26 cm. $22.50 1241

Contents (abridged) Intestinal protozoa of man, by E. Rabinovitch. Amebic dysentery hepatic abscess, and other intestinal conditions caused by protozoa, by O. Felsenfeld and V M. Young. Malaria,

by J W Colvin. Chagas' disease, by S. Mazza. Pinta, mal del pinto, or carate, by F Leon-Blanco and E. Sánchez-García. Relapsing fever by A. A. Packchanian. Weil' disease, by A. A. Packchanian. Fevers due to ratbite (including sodoku) by A. Castañeda Hernández. Yellow fever by H. de Azevedo Penna. Psittacosis (ornithosis, psittacosis) by K. F Meyer. Lymphogranuloma venereum, by J L. Soto Rosa. Tularemia, by L. Foshay Plague, by A. Macchiavello, translated by A. Donovan. Cholera (Asiatic cholera) by E. Henderson and H. Sanera. Leprosy by V Pardo Castelló. Tropical phagedenic ulcer (Vincent's ulcer) by G. Pardo-Rickettsialpox, by M. Greenberg. Dracontiasis or Guinea worm disease, by A. E. A. Hudson. Schistosomiasis japonica, by F B. Bang. Tropical mycosis—introduction, by A. González-Ochoa. South American blastomycosis, by F Pardo de Almeida. Histoplasmosis and melioidosis, by R. D H. Grudwohl. Diseases caused by ticks, mites, centipedes, and flea, by L. Vargas. Snake venenation (ophidism), by A. do Amaral. Diseases due to nutritional disturbances, by A. Clerch Ríos. Sprue, by R. M. Suárez. Beriberi, by E. R. Whitmore. Pellagra, by R. K. Butler. Therapeutics of tropical diseases, by H. J Reeside. The use of antibiotics in tropical diseases, by O. Felsenfeld and S. J Ishihara. Rapid frozen section methods in tropical diseases, by A. A. Krajian. Index.

Note A very comprehensive work in 71 chapters written by more than 50 leading specialists in the various fields of tropical medicine. The authors include the citizens of several South American countries as well as citizens of the United States of America. Although the organization and scope of the chapters vary considerably each one which is devoted to specific disease or group of diseases summarizes the current information regarding etiology epidemiology pathology, symptomatology laboratory tests, diagnosis, treatment, and prophylaxis. The book is suitable for use both as text in graduate courses and as reference manual by graduate physicians practicing in the tropics and subtropics. Extensive bibliographies are included.

HERMS WILLIAM BRODBECK

Medical entomology with special reference to the health and well-being of man and animals. Fourth edition. Based on the book known as *Medical and veterinary entomology* New York The Macmillan Company 1950 643 p illus. (part col d) 24 cm. $9 00 1242

Contents Introduction. Scope and method. Parasites and parasitism. How arthropods cause and carry disease. Structure, development, and classification of insects and arachnids. Insect and arachnid mouth parts. Cockroaches and beetles. Bugs. The flea. Gnats (exclusive of mosquitoes) Mosquitoes—classification and biology Mosquitoes as vectors of disease. Mosquito abatement. Horseflies, deer flies, and snipe flies. Houseflies Bloodsucking muscoid flies. Myiasis. Louse flies. Fleas. Ticks and tick-borne diseases. Mites. Venomous and urticarial arthropods Index.

Note (2415) A standard textbook and reference work in which the *subject is presented chiefly from the standpoint of public health.* However there is also good deal of material of veterinary interest, for instance detailed descriptions of the technique of the control of poultry lice by dipping the birds. Statements in the text are carefully identified with the source articles, hence the book serves as guide to considerable range of literature It has been substantially revised in this edition and now includes discussions of DDT and *other new insecticides in the control of insect pests. It does not of* course include material on all of the recently developed insecticides.

NEW YORK ACADEMY OF MEDICINE. SECTION ON MICROBIOLOGY

Parasitic infections in man. Symposium held at the New York Academy of Medicine, March 15 and 16, 1949 Edited by Harry Most. New York Columbia University Press 1951 229 p. illus. 24 cm. $4 50 1243

Contents. Introduction—the world health importance of parasitic diseases, by P F Russell. The significance of new findings in the life cycle of malarial parasites, by C G Huff Immunological mechanisms in parasitic infections, by J T Culbertson. Immunological diagnosis of parasitic diseases, by John Bozicevich Diagnosis of intestinal helminths and protozoa—current perspective, by N R Stoll. *Studies on growth and metabolism of Endamoeba histolytica*, by W W Frye. The physiology of blood flagellates, by T von Brand Biochemistry and metabolism of malarial parasites, by R. W McKee. The cultivation of malarial parasites, by Q M Geiman. Metabolism of helminths, by E. Bueding. Pharmacologic evaluation and clinical application of amebacides with special reference to the diamoebas, by H. H. Anderson. The status of anthelmintic drugs, by Q. R. Cantney Theory of filariasis and the more common intestinal helminths, by H. W Brown. The treatment of schistosomiasis, by F J. Brady

Note: A collection of original papers prepared for delivery at the symposium mentioned in the book's title. The authors are recognized authorities in parasitology and related fields and their papers are addressed primarily to professional workers in medicine and public health. The book as whole presents cross section of the current knowledge and research in human parasitology Substantial lists of references accompany most of the papers. The book contains neither subject nor author indexes.

SHATTUCK, GEORGE CHEEVER

Diseases of the tropics. New York. Appleton-Century-Crofts, Inc. 1951 803 p. illus. 25 cm. $12 00 1244

Contents (abridged) Part one, Protozoa of the blood and tissues. Part two, Spirochaetoses. Part three, Rickettsial diseases. Part four, Bacterial diseases. Part five, Viral diseases. Part six, Helminthic diseases. Part seven, Intestinal protozoa. Part eight, The mycoses. Part nine, Miscellaneous diseases. Part ten, Disorders of nutrition. Part eleven, Tropical climates and health. Part twelve, Noxious animals, plants and arthropods. Index.

Note. A compact presentation in which the emphasis is on prevalent *and potentially epidemic diseases.* The discussions of specific diseases are organized under the following subheadings synonyms, definition, geographical distribution, epidemiology etiology transmission, prevention, pathology symptoms, diagnosis, prognosis, treatment, and literature references. The discussions of some diseases include, in addition, information on insect vectors, vaccination, quarantine practice, diagnostic laboratory tests, etc. The book is *suitable for use as text and also as reference guide for physicians concerned with the care of either military or civilian personnel in tropical regions.* It is of interest also to public health officials in these regions.

STRODE GEORGE K editor

Yellow fever New York McGraw Hill Book Company Inc., 1951 710 p. illus. 26 cm. $9 50 1245

Contents. Preface, by G. K. Strode. Landmarks in the conquest of yellow fever, by A. J. Warren. The virus, by M. Theiler. The pathology of yellow fever by J C. Bugher. *Immunology* by K. C Smithburn. The arthropod vectors of yellow fever by L. Whitman. The mammalian host in yellow fever by J. C. Bugher. The clinical aspects and diagnosis of yellow fever, by J A. Kerr. Epidemiology by R. M. Taylor Controlling yellow fever by H. H. Smith. Costs and man power by G. K. Strode. Bibliography Index.

Note More than 30 years of basic research and field study by the *International Health Division of the Rockefeller Foundation* were the bases for this comprehensive and authoritative work. The monographic chapters are based almost entirely on the scientific articles published by staff members of this organization and its annual reports. Only incidental references are made to the publications of independent workers. Nevertheless so extensive was the work of the International Health Division that this limitation to the publications of one organization did not prevent the production of an essentially complete presentation of the current status of yellow fever in both its clinical and public health aspects.

VON BRAND THEODOR

Chemical physiology of endoparasitic animals New York Academic Press, Inc. 1952. 339 p. illus. 23 cm. $7 50. 1246

Contents (abridged) Part I, Chemical composition of endoparasites: Dry matter and inorganic substances. Carbohydrates. Lipids. Proteins. Miscellaneous physiologically active substances. *Pigments. Toxic substances. Part II,* Metabolism of endoparasites: Water metabolism and osmotic relationships. Carbohydrate metabolism. Lipid metabolism. Protein metabolism. The aerobic and post-anaerobic metabolism. The growth requirements of parasites. Part III, gaseous exchanges. Chemical host parasite relationships: Nutritional relationships between parasites and hosts. Metabolic disturbances in parasitic infections. Endocrinological relationships. Parasite physiology and chemotherapy Author index. Subject index.

Note A summary of the established knowledge of the chemical composition, metabolism, and biochemical aspects of host parasite relationships of such parasites as protozoa and the endoparasitic arthropods. The text is compact literature digest with careful ref

erences to the source articles. The author index includes the names of all authors of cited papers. The book is of interest to professional biochemists, physicians specializing in tropical medicine and parasitology and zoologists doing research in parasitology. The author is associated with the Laboratory of Tropical Diseases of the National Institutes of Health.

WARSHAW, LEON J

Malaria, the biography of a killer New York Rinehart & Company Inc., 1949 348 p. 22 cm. $3 75 1247

Contents (abridged) Part one, Chills and fever: The world's greatest killer. Great men and fever Malaria in America. Part two, From miasma to mosquito Laveran's discovery The mosquito theory Manson, the father of tropical medicine Ross and mosquito day Grassi and the anopheles. Part three, Mosquito control Watson in Malaya. Gorgas and the Panama Canal. The Brazilian epidemic. Ditches, dusts and sprays Nets and repellents. Part four, Cinchona, quinine and atabrine: The fever tree. The active principle. The victory of quinine. Cinchona in the East Indies. Quinine and the parasite. The ideal drug. Part five, Malaria in war. Part six, Artificial malaria. Part seven, The future. Bibliography Index.

Note: A popular account of mankind's not yet victorious battle against malaria. There is no emphasis on the sensational aspects of the subject, but the facts and the author's lucid style hold the reader's attention. The bibliography is a selected one of books and articles used by the author in the preparation of this book. However it is not keyed in any way to passages in the book.

RESPIRATORY DISEASES

DAWBER, THOMAS ROYLE, AND LLOYD E HAWES

Diseases of the chest. Baltimore The Williams & Wilkins Company 1952 440 p. illus. 26 cm. $10 00. 1248

Contents: Introduction. Normal chest. Methods of examination. Chest wall Diseases of the diaphragm. Diseases of the pleura. Diseases of the mediastinum. Diseases of the trachea and bronchi. Pulmonary tuberculosis. Diseases of the heart. Diseases of the lungs (other than tuberculous) Bibliography Index.

Note: One of the authors of this book is a surgeon and the other is a specialist in radiology Both have been interested for many years in chest diseases. The use of X-ray in the diagnosis of chest diseases is covered thoroughly and all of the 216 figures are reproductions of chest roentgenograms However the text is not limited to the roentgenology of the chest The whole subject is covered with due attention to other diagnostic techniques such as tuberculin skin tests and examination of sputum. Therapeutic measures are well covered also.

MYERS JAY ARTHUR

Tuberculosis among children and adults. Third edition. An introduction by Allen K. Krause. Springfield Illinois Charles C Thomas, 1951 894 p. illus. 24 cm. $13.50 1249

Contents (abridged) Introduction to first and second editions, by A. K. Krause Part I, Tuberculosis in infancy Recent progress in tuberculosis and its practical application in diagnosis, treatment, and prevention. Sensitization and immunity Congenital tuberculosis. Results of exposure to tuberculosis. First infection type of tuberculosis in infants Other forms of tuberculosis in infancy Tuberculous meningitis, by C A Stewart Part II, Tuberculosis in childhood Diagnosis and treatment of first infection type of tuberculous lesions in the chest in childhood Prognosis and prevention of first infection type tuberculosis in childhood Other tuberculous lesions in childhood Chronic non tuberculous basal pulmonary damage in childhood, by C. A Stewart Part III, Tuberculosis among young adults and other considerations First infection type of tuberculosis among young adults Diagnosis of reinfection type of pulmonary tuberculosis among young adults. Treatment, prognosis and prevention of reinfection type of pulmonary tuberculosis among young adults. Dangers to children from tuberculosis among elderly persons Part IV Recent progress in tuberculosis control: The diagnosis. Mass surveys and the detection of tuberculosis. Children and tuberculosis control. Control of tuberculosis among students. Tuberculosis and war. Treatment of pulmonary tuberculosis by mechanical therapy by R. C. Matson and W S. Conklin. Contemporary in the treatment of pulmonary tuberculosis, by J. D. Steele. Extrapleural thoracoplasty in the treatment of pulmonary tuberculosis, by J R. Head. Exercise in the treatment of pulmonary tuberculosis, by O. T Clagett. Effectiveness of tuberculosis control measures. Index.

Note: A standard treatise in which both clinical and public health aspects are covered. The author has been one of the most active American workers in the advancement of the control of tuberculosis, and he has incorporated in this book the gist of not only his own writings but of those of other authorities in the United States of America and abroad. The book is addressed to graduate medical practitioners and public health personnel rather than to undergraduate students. The second edition was published in 1944. Much material reflecting the great advances in the control of tuberculosis and its decline as a major disease among children and young adults has been added in this edition. The additions include the whole fourth part.

RICH ARNOLD RICE

The pathogenesis of tuberculosis. Second edition. Springfield, Illinois Charles C Thomas, 1951 1028 p. illus. 26 cm. $15.00 1250

Contents (abridged) The relation of the chemical constituents of the tubercle bacillus to pathogenesis. The different types of tubercle bacilli. The nature and effects of virulence. Native resistance—species and racial resistance—individual resistance—the influence of heredity—the influence of sex and age. The mechanism of native resistance. Hypersensitivity Desensitization. Acquired resistance. The mechanism of acquired resistance. Factors that influence resistance. The influence of the number of bacilli. The factors responsible for the characteristics of tuberculous lesions and symptoms. Exogenous or endogenous reinfection—is an arrested primary infection protective or deleterious? Application of the principles of pathogenesis, as illustrated by tuberculous lesions of the lungs, meninges and serous cavities. The decline in the mortality from tuberculosis, and the outlook for the future. Bibliography Author index. Subject index.

Note: (1445) A comprehensive presentation of the valid knowledge of tuberculosis with particular attention given to the mechanisms of infection, resistance to infection, and the arrest of infections. Essentially it is an expert critical survey of the literature, and references are carefully made from statements in the text to the bibliography *The scope and much of the content of the work are unchanged* in this edition. Nevertheless, the revision has been carefully done in order to include all of the significant results published in the literature since the writing of the first edition. The author is a member of the faculty of Johns Hopkins University School of Medicine and Pathologist-in-Chief of the Johns Hopkins Hospital

SINGER JACOB JESSE

Differential diagnosis of chest diseases *with 171 illustrations.* Philadelphia Lea & Febiger 1949 344 p illus. 24 cm. $7.50 1251

Contents (abridged) Diagnostic methods: Laboratory methods. Mechanical aids. Roentgenology Thoracic cage Deformities, fractures and inflammations of the thoracic cage Tumors of the chest wall Diseases of the pleura. Mediastinum. Diaphragm. Tracheobronchial tree and lungs: Anatomy and miscellaneous diseases. Bronchiectasis Bronchopneumonia. Lobar pneumonia Lipoid pneumonia. Virus (atypical) pneumonia. Pulmonary abscess Pneumoconiosis. Pulmonary mycoses. Hodgkin's disease Tuberculosis Benign tumors of the lung. Cancer of the lung (carcinoma) Sarcoidosis Index.

Note. A concise work designed primarily for the guidance of general practitioners of medicine. The main theme is accurate differential diagnosis based on information obtained from all applicable techniques Roentgenology is included but its value is not overemphasized. Generally speaking each disease is discussed under the following heads etiology pathology clinical symptoms, physical signs, Roentgen-ray findings, laboratory findings, and differential diagnosis. The presentation is concise, but a bibliography of related books and periodicals is given for each disease The author is Medical Director of the Rose Lampert Graf Foundation.

VORWALD ARTHUR J editor

Pneumoconiosis Beryllium bauxite fumes, compensation. Leroy U Gardner memorial volume. (Sixth Saranac symposium) Edited by Arthur J Vorwald with the collaboration

of Manfred Bowditch, Thomas M Durkan, and Theodore C. Waters New York Paul B Hoeber Inc. Medical Book Department of Harper and Brothers, 1950 659 p Illus. (part col d) 24 cm. $7.50 1252

Contents: Part I, The beryllium problem history industrial aspects: History of the beryllium problem, by Thomas L. Shipman. Beryllium alloys, by Andrew J. Jackson. The manufacture of fluorescent lamps, by Karl C. Beyer Present and future uses of beryllium, by Charles B. Sawyer. A common denominator by Charles R. Williams. Part II, The beryllium problem the acute disease. Acute beryllium poisoning, by H. S. VanOrdstrand. Acute pneumonitis in beryllium workers with case histories, by Joseph DeNardi. Part III, The beryllium problem; the chronic or delayed disease: Clinical and epidemiological aspects, by Harriet L. Hardy Roentgenologic aspects, by S. A. Wilson. Physiologic aspects, by George W Wright. Pathologic aspects, by Arthur J Vorwald. Differential diagnosis, by Joseph C. Aub. The chronic disease in neon tube workers, by O. A. Sander Postmortem observations in cases in which the patients had been exposed to beryllium, by Harrison S. Martland. Part IV The beryllium problem, toxicity studies in connection with atomic energy production Introduction by Joe W Howland. Biochemical studies of workers exposed to beryllium, by J J. Nickson and Elaine J. Katz. Pathology of acute experimental beryllium poisoning; changes resulting in venous blood from the intravenous administration of beryllium sulfate, by James K. Scott. Preliminary data on rat feeding with beryllium, by Elliott A. Maynard and others. Certain aspects of the acute toxicity of beryllium injected intraperitoneally by Harold C. Hodge and others. Preliminary studies in the toxicology of beryllium the effect of intratracheal injection of beryllium in experimental animals, by Charles W LaBelle and Martha Reed Cucci. Initial studies of the toxicity of inhaled beryllium sulfate dust and beryllium metal fume, by George F Sprague and others. A review of analytical methods for beryllium, by William F Neuman. An analysis of dust and fume hazards in a beryllium plant, by Sidney Laskin and others. Summary of the beryllium problem in connection with atomic energy production, by Joe W Howland. Part V The beryllium problem: experimental aspects: Animal methods, by Arthur J Vorwald. Chemical methods, by Thomas M. Durkan. Spectroscopic methods, by A. Forsky A further program, by Willard Machle Conclusions of sessions on the beryllium problem, by B. L. Vosburgh. Part VI, Shaver's disease: Clinical aspects of Shaver's disease, by A. R. Riddell. Chemical aspects of Shaver's disease, by C. M. Jephcott Summary by Theodore F Hatch. Part VII, Compensation for occupational disease Introduction, by Theodore C. Waters. The industrial medical practitioner's point of view by Leonard C. McGee. Viewpoint of workmen's compensation administration as to occupational diseases, by Mary Donlon. The insurance viewpoint, by Henry D. Sayer The management viewpoint, by Andrew Fletcher Medical referee' point of view by Dwight O'Hara. Synthesis of viewpoints, by Theodore C. Waters. Participants in the sixth Saranac symposium. General bibliography on beryllium. Index.

Note. In the 1940's two disease entities, one caused by the inhalation of dust containing beryllium and the other by fumes arising from bauxite furnaces, were first noted among industrial employees. This book, which contains the papers and discussions at a symposium in which representatives of medicine, chemistry law insurance, and labor participated, offers a comprehensive and authoritative exposition of present knowledge concerning the two pneumoconioses and of the medico-legal problems they raised. The bibliography records 444 items of pertinent literature concerning beryllium which appeared to 1950 and notes where they are abstracted The book is illustrated with 196 photographs and diagrams and five colored plates.

WILLIS, HENRY STUART AND MARTIN MARC CUMMINGS

Diagnostic and experimental methods in tuberculosis. Second edition Springfield Illinois Charles C Thomas 1952 373 p. Illus. 24 cm. $10.00 1253

Contents. Part I, Laboratory diagnosis Description of the secretions, excretions and constituents of the body in tuberculosis The tubercle bacillus. Demonstration of the tubercle bacillus by staining methods. Demonstration of the tubercle bacillus by methods of concentration and cultivation. Culture media. Demonstration of the tubercle bacillus by inoculation of animals. The non pathogenic acid-fast bacteria. Part II, Related clinical and laboratory methods. Protective occlusion. Antibacterial agents—methods of determining sensitivity The preparation and application of tuberculin Serological diagnosis. Part III, Some methods of value in the study of tuberculosis experimentally produced: Inoculation of animals with the tubercle bacillus. Induced tuberculosis in animals. Methods of studying induced tuberculosis in animals. Histological technique. Bibliography. Author index. Subject index.

Note. About one-third of this work is devoted to descriptions of laboratory techniques which are useful in the diagnosis of tuberculosis, and the remaining two-thirds is devoted to related clinical and experimental methods. It is addressed to upperclass students in medical schools, to graduates in clinical medicine, to public health workers, and to beginners in medical research. Techniques are described in adequate detail for most purposes, and formulas are included for culture media, etc. Moreover, the text is cross referenced to the bibliography of 501 literature citations for the benefit of those readers who need fuller information on specific points. The first edition was published in 1928. The work was almost wholly rewritten for this edition in order to incorporate the great advances in this field in the past two decades.

ZACKS DAVID

Photoradiography in search of tuberculosis. Baltimore The Williams & Wilkins Company 1949 297 p Illus. 26 cm. $5 00. 1254

Contents. Introduction. Organization. Planning for the arrival of the X-ray field unit. X ray field unit in action. Essentials for production of satisfactory photoradiograms. Problems in screening photoradiograms. Interpretation of chest roentgenograms in tuberculosis case finding. The role of the general practitioner. The role of the industrial medical department. The role of the diagnostic chest clinic. Duration of follow-up period. Follow-up plan. Cost of mass chest X-ray surveys. Illustrations. Promotional and educational materials. Record forms and reports. Bibliography Index.

Note A manual of the organization and administration of "mass" X-ray surveys made to detect tuberculous individuals in communities or other groups. Tested techniques for preparing the group for reception of the X-ray field unit are described and are followed by descriptions of practical methods for evaluation of the results of the survey in the medical and public health programs. The illustrations include a serial X-ray study of fourteen typical cases such as might be discovered in a mass survey and an atlas of 230 reproductions of chest photoradiograms with discussions.

VENEREAL AND GENITOURINARY DISEASES

BRAASCH, WILLIAM FREDERICK, AND JOHN L. EMMETT

Clinical urography an atlas and textbook of roentgenologic diagnosis. Philadelphia W B Saunders Company 1951 736 p. Illus. 26 cm. $25 00 1255

Contents. Methods in urographic diagnosis. The plain film of the urinary tract. The normal urogram. Dilation of the urinary tract, urinary stasis, the obstructive uropathies, atony, neurogenic and neuromuscular dysfunction. Urinary calculi. Nontuberculous infections of the urinary tract. Tuberculosis of the genito-urinary tract. Anomalies of the Renal cysts. Tumors of the genito-urinary tract. Anomalies of the urinary tract. Urethrography seminal vesiculography rectography and other special methods of examination. Miscellaneous. Index.

Note A comprehensive, lavishly illustrated treatise. There are 1341 figures, most of which contain reproductions of more than one roentgenograph. Throughout the book the textual discussion is directly related to the roentgenographs. Nevertheless, the text is organized so that it constitutes a monograph of urographic diagnosis. Selected bibliographies are appended to the chapters. The authors are associated with the Mayo Clinic.

COLBY FLETCHER HATCH

Essential urology Baltimore The Williams & Wilkins Company 1950. 580 p Illus. 24 cm. $8.00 1256

Contents (abridged) Part one, Embryology anatomy and physiology of the genito-urinary organs. Part two, Examination of the urological patient. Part three, Diseases of the genito-urinary organs. Index.

Note In this textbook for medical college students there is considerable emphasis on both gross and microscopic pathology. Besides over normal embryology anatomy and physiology are outlined. Diseases of particular organs, for example the bladder are discussed individually under the following subheadings: etiology pathology, symptoms, diagnosis, treatment, and prognosis. Also a list of references.

ences is supplied. The author is Chief of the Urological Service of the Massachusetts General Hospital and member of the faculty of Harvard Medical School.

HERBUT PETER ANDREW

Urological pathology 527 illustrations, including 2 in color Philadelphia Lea & Febiger, 1952 2 v illus. (part col d) 24 cm. $24 00. 1257

Contents: Volume I: Embryology of urinary system. Urethra. Bladder Ureters and pelves. Kidneys. Index. Vol. II: Adrenals. Embryology of male genital system. Penis Prostate. Seminal vesicles. Spermatic cord. Epididymides. Testes. Scrotum. Index.

Note. A comprehensive, well illustrated work. It is arranged by region, and under each region the individual diseases are discussed under the following subheadings: definition, distribution, cause, clinical manifestations, microscopic appearance, gross appearance complications, clinicopathologic correlation, diagnosis, treatment and prognosis. Extensive literature references are included. Although suitable for use in instruction, the book is essentially reference work rather than textbook. The author is Professor of Pathology on the faculty of Jefferson Medical College.

LIPPMAN RICHARD WILLIAM

Urine and the urinary sediment, a practical manual and atlas. Springfield, Illinois Charles C Thomas, 1952 124 p. illus. (part col d) 26 cm. $7.50 1258

Contents: Proteinuria and elements of the urinary sediment. Observations on the urine in disease. General considerations and technique. References Index.

Note: The main feature of this short monograph is series of 87 reproductions in color of photographs of urinary sediments. These photographs are original and were made by the author. In the text of the book the author has discussed the examination of urine from the standpoint of the clinician interested in the diagnosis of disease. Also he has described specifically and in detail related clinical laboratory procedures. The list of references includes 93 citations.

McCREA, LOWRAIN EDWARD

Clinical cystoscopy technic, procedures diagnosis treatment. Drawings by R. Engle Shafter With 742 illustrations 201 in color Second edition. Philadelphia F A. Davis Company 1949 585 p. illus. (part col d) 26 cm. $28.00 1259

Contents (abridged) Vol The cystoscope. Introduction of the cystoscope. The normal bladder. Cystitis Miscellaneous affections of bladder. Tumors of the bladder Vesical calculus. The neurogenic bladder. Prostatic hypertrophy The ureters. Ureteral catheterization. Bibliography Index. Vol. II Renal anomalies. Renal function tests. Hydronephrosis Nontuberculous infections of the kidney Medical diseases of the kidney Specific infections of the kidney Renal cysts. Tumors of the kidney Retroperitoneal cysts and tumors. Urology in the female. Urology in children. Urological roentgenography Bibliography Index.

Note A comprehensive, fully detailed treatise addressed to upperclass and graduate medical college students, general practitioners of medicine, gynecologists, and specialists in urology The various cystoscopic manipulations and procedures are both described in the text and shown in the illustrations. The illustrations are special feature. Not only are they numerous but they are clear and well reproduced. Many of the colored illustrations are reproductions of photographs taken in color The first edition was published in 1941. Many useful revisions and augmentations have been made in this edition. Both the textual material and the illustrations have been increased. The index has been much improved.

NARATH PETER ALFRED

Renal pelvis and ureter New York Grune & Stratton, 1951 429 p. illus. 26 cm. $12.50 1260

Contents: Terminology The embryology of the ureter and the renal pelvis. The final form of the renal pelvis. The normal anatomy of the ureter and the renal pelvis. The normal histology of the renal pelvis and the ureter. The dynamics of the upper urinary tract. The tonus of the urinary tract. Resorption and absorption in the upper urinary tract. Various forms of extravasations. The roentgenography of the upper urinary tract. Bibliography. Index of authors. Index of subjects.

Note: A monograph on the embryology, gross and microanatomy and the physiology of major part of the urinary system. Basic knowledge is emphasized, but since the book is designed to be of practical aid to urologists, considerable information that is directly related to diagnosis is included. The book is based both on the literature and on the author's own investigations. The bibliography covers publications from 1477 to 1950 and is arranged chronologically The 164 figures include reproductions of many exceptional roentgenographs.

PRATHER, GEORGE CALVIN

Urological aspects of spinal cord injuries. Springfield Ill. Charles C Thomas 1949 146 p. illus. 22 cm. (American lecture series. Publication no 30 A monograph in American lectures in surgery edited by Michael E. DeBakey and R. G. Spurling. Division of neurosurgery editor Barnes Woodhall) $3 75 *1261*

Contents: The bladder. Changes in upper urinary tract after spinal cord injury Changes in sexual organs after spinal cord injury Genito-urinary complications. Results of treatment. Military policy Suggested program for treatment. References. Subject and author index.

Note: An authoritative resume of the pertinent neurological and urological knowledge, of methods of treatment, and of experience, especially in World War II. Essentially it is digest of previously published literature including the authors' own contributions. Since references are incorporated in the text to the citations of source articles in the extensive bibliography the book is also guide to the literature of the subject.

THOMAS EVAN WELLING

Syphilis its course and management. Foreword by John F Mahoney Chapter on "Public health aspects of syphilis" by Theodore J Bauer New York The Macmillan Company 1949 317 p. illus. 24 cm $5.50 1262

Contents Etiology of syphilis. A general description of the course of untreated syphilis. Immunology of syphilis. Interpretation of quantitative serologic tests for syphilis (STS) Iodides, bismuth, arsenicals, and fever therapy Antibiotics in the treatment of syphilis. Principles underlying antisyphilitic treatment. The examination and education of the patient. The diagnosis and treatment of early infectious syphilis. Latent syphilis. Late benign syphilis. Cardiovascular syphilis. Neurosyphilis. Syphilis and pregnancy Congenital syphilis. The public health aspects of syphilis. Index.

Note A comparatively short presentation in which modern diagnostic tests and treatment with antibiotics, especially penicillin, are stressed. Many data are presented in tabular form to save space. The book is based largely on an extensive experience with the rapid treatment of early syphilis at Bellevue Hospital

YEAR BOOK OF UROLOGY

The 1951 year book *of* urology (November *1950–October 1951*) *Edited by* William Wallace Scott. Chicago The Year Book Publishers Inc. 1952 383 p. illus. 20 cm. $5.50. 1263

Contents: A month with English urologists General considerations. The kidney The adrenals The ureter. The bladder. The prostate. The genitalia. Index. Index to authors.

Note: (1111*) This annual is similar in scope and organization to the other volumes in the same series. Under each of the chapter headings noted in the contents fairly long abstracts are presented. These abstracts give the essence of several hundred significant articles selected from the world's medical periodicals published during the period noted in the title. Some of the abstracts are supplemented by brief note in which the editor comments on the author's findings or relates the articles to other studies in the same field.

ALLERGY

EPSTEIN STEPHAN, editor

Allergic pruritus its dermatologic management. An official publication of The American College of Allergists Inc. Saint Paul Bruce Publishing Company 1952 76 p. illus. 20 cm. $2 50 1264

Contents Physiology and pharmacology of pruritus, by S. Rothman. Diagnosis of some nonallergic itching dermatoses, by C. Laymon. Classifications of eczema, by F W Lynch. The treatment of pruritus, by H. Rattner The local treatment of itching dermatoses, by J R. Webster ACTH and cortisone in allergic dermatoses, by R. L. Baer Psychosomatic aspects in eczema, by F W Lynch. Bacterial eczemas, by S. Epstein. The role of focal infection in skin diseases, by S. Epstein.

Note The papers presented at the Symposium on Itching Dermatoses held in connection with the sixth annual congress of the American College of Allergists in April, 1950, are collected in this volume. The authors are medical practitioners and the papers are addressed both to specialists in allergy and to general practitioners. The majority of the papers include references to related literature and illustrations. Some include formulas for ointments and other medicines.

RINKEL HERBERT JOHN, AND OTHERS

Food allergy By Herbert J Rinkel Theron G Randolph and Michael Zeller Springfield, Ill. Charles C Thomas 1951 492 p illus. 24 cm. $9.50 1265

Contents (abridged) Introduction The clinical importance of the cyclic concept of food allergy Etiology Symptomatology The specific diagnosis of food allergy The treatment of food allergy Specific foods as allergens. Recipes for use with therapeutic diets. Clinical case records. Appendix. Index.

Note A monograph in which most of the emphasis is on the practical aspects of food allergy However the basic mechanisms of food allergy are adequately discussed in the earlier chapters From chapter four onwards the book is devoted to recognition, specific diagnosis, and treatment. There are two chapters on symptomatology five on specific diagnosis, and two on treatment. Also, there is long chapter of recipes The book is primarily of interest to general practitioners of medicine and other medical practitioners who do not specialize in allergy Literature references are supplied with each chapter.

TAUB SAMUEL JAMES

Clinical allergy a practical guide to diagnosis and treatment. Second edition revised and reset. New York Paul B Hoeber Inc., 1951 276 p. 24 cm. $4 50 1266

Contents Introduction Immunochemistry and its relation to clinical allergy The dynamics of allergy Seasonal pollenosis or seasonal hay fever Perennial hay fever Asthma Etiologic diagnosis and treatment of asthma Molds. Disturbances of the skin due to allergy Drug allergy Miscellaneous allergic conditions Serum sickness and prophylaxis Preparation of extracts Appendix Index.

Note (1117*) In its second edition this useful work remains brief practical manual suitable for the general medical practitioner or medical student who is unable to make detailed study of allergic diseases. The main types of allergy are described concisely with reference to symptoms, tests, diagnosis, methods of treatment. Summarized case histories are included In this edition number of useful additions and revisions have been made and the book is about 75 pages longer than the first edition

TUFT, LOUIS

Clinical allergy Second edition with 54 illustrations 3 colored plates and 46 tables. Philadelphia Lea & Febiger 1949 690 p. illus. (part col d) 24 cm. $12 00 1267

Contents (abridged) Section I, General principles: Anaphylaxis. Methods of diagnosis. Methods and principles of treatment Section II, Etiologic types. Serum allergy Drug allergy Food allergy Pollen allergy Allergy to fungi. Allergy to other inhalants. Bacterial allergy Physical allergy Section III, Clinical manifestations: Asthma. Allergic rhinitis. Hay fever. Gastro-intestinal allergy Migraine. Section IV Allergic dermatoses and allergy in relation to the specialties Allergic dermatoses—general principles and methods of diagnosis. Urticarial dermatoses. Atopic dermatitis. Contact dermatitis. Allergy in children. Allergy in relation to the other specialties. Appendix. Bibliography Index.

Note. An authoritative manual addressed primarily to general practitioners of medicine. The style is concise and more information is included than the number of pages might indicate. Aspects of interest to the general practitioner such as clinical manifestations, diagnosis, and treatment are emphasized. However there are adequate discussions of general principles and etiology Typical illustrations are presented in synopsis form. A variety of useful information on laboratory methods, preparation of extracts, rules for patients, household and food allergies, and special diets is included in the appendix.

MALIGNANT GROWTH

AMERICAN CANCER SOCIETY

Manual of tumor nomenclature and coding. Prepared by Subcommittee of the Statistics Committee American Cancer Society New York American Cancer Society 1951 119 p. 29 cm $2 50 1268

Contents: Introduction. Histogenetic classification of neoplasms. Malignancy code. Numeric list. Alphabetic index. Appendix

Note The histogenetic and malignancy codes presented in this work are intended to be used "with the site codes in either the American Medical Association's Standard Nomenclature of Diseases or the World Health Organization's International Statistical Classification of Diseases, Injuries and Causes of Death. The manual is basic one for use in the record libraries, tumor registries, and in statistical presentations of tumor data.

AMERICAN CANCER SOCIETY

Mouth cancer and the dentist, by Hayes Martin. New York American Cancer Society 1949 63 p. illus. (part col d) 23 cm. 1269

Contents (abridged) Symptoms of mouth cancer. Early diagnosis of mouth cancer Differential diagnosis of mouth cancer. Miscellaneous benign lesions sometimes confused with mouth cancer. Causative factors of mouth cancer What the dentist can do to combat mouth cancer Current methods of treatment of mouth cancer Effects of radiation therapy on tooth structures. Indications for the extraction of teeth either before or after treatment of mouth cancer. Prognosis of mouth cancer. Summary.

—— Cancer of the lung, by Richard H. Overholt and Sherman W Atwell. New York American Cancer Society, 1950 51 p. illus. 23 cm. 1270

Contents Historical frontispiece. Introduction. Chronology of cases. Differential diagnosis: Complete Roentgen ray examination. Cytological examination. Bronchoscopy Exploratory thoracotomy. Multiple responsibility and where it rests. The first doctor consulted. The doctor who labels the shadow The thoracic surgeon. What has been purposefully omitted. Conclusions.

—— Carcinoma of the breast, by C. D Haagensen New York American Cancer Society 1950 120 p illus. 23 cm. 1271

Contents: Preface. Carcinoma of the breast. Chapter I, The problem of diagnosis. Chapter II, Treatment of carcinoma of the breast. Summary References.

—— Cancer of the esophagus and the stomach, by Owen H. Wangensteen. New York American Cancer Society 1951 112 p. illus 23 cm. 1272

Contents: Cancer of the esophagus and the stomach. Cancer of the esophagus. Cancer of the stomach. The future. References.

—— Value of early diagnosis of malignant lymphomas and leukemias, by Lloyd F

Craver New York American Cancer Society 1952 47 p. illus. 23 cm. 1273

Contents: Value of early diagnosis of malignant lymphomas and leukemias. Chapter I, The leukemias. Chapter II, The malignant lymphomas. References.

Note: A series of authoritative pamphlets which are addressed to dentists and medical practitioners who are not specialists in cancer but are often the first to see patients with cancer. The emphasis is on recognition and diagnosis. Some information is included on prognosis and therapy. The series is very well illustrated.

CANTRIL, SIMEON THEODORE

Radiation therapy in the management of cancer of the uterine cervix. Springfield Illinois Charles C Thomas, 1950 196 p illus. 22 cm. (The American lecture series. No. 55 A monograph in American lectures in radiation therapy edited by Milton Friedman) $5.50 1274

Contents: Introduction. Clinical considerations. The pathology and spread of cancer of the cervix. The complications of cervical cancer. Staging of cancer of the cervix. Biopsy. Radiation therapy. Cancer of the cervical stump. Cancer of the cervix in pregnancy. The position of surgery in the management of carcinoma of the cervix. Appendixes. The staging of cancer of the uterine cervix. Dosimetry in intracavitary radium therapy. References. Index.

Note: This monograph serves dual purpose in reviewing those features of cancer of the cervix manageable by roentgen and radium therapy and in presenting history of the development of radiation therapy based on the concepts as evolved from the Swedish and French schools of radiotherapy. Some emphasis is placed on X-ray therapy and the technics of application as well as on problems of dosimetry. Excellent diagrams and X-ray photographs and summary of worldwide results of radiation treatment made this volume useful reference work. The author is Director of the Tumor Institute of the Swedish Hospital in Seattle, Washington.

COLEY BRADLEY LANCASTER

Neoplasms of bone and related conditions their etiology pathogenesis, diagnosis and treatment. With 622 illustrations and 53 tables. New York Paul B Hoeber Inc. 1949 765 p. illus. 26 cm. $17.50 1275

Contents (abridged) Section one, Classification, etiology and diagnosis. Diagnostic survey in suspected cases of bone tumor. Differential diagnosis. Blood chemistry in the diagnosis of diseases of bone, by H Q Woodard. Section two, Benign tumors and tumorlike lesions of bone. Osteoma. Nonosteogenic fibroma of bone. Chondroma. Benign chondroblastoma of bone. Hemangioma of bone. Solitary bone cyst. Fibrous dysplasia of bone. Giant cell tumor. Adamantinoma. Chordoma. Sarcoma as late development in benign lesions of bone. Section three, Primary malignant tumors of bone. Section four. Tumors involving bone by extension. Section five, Metastatic tumors involving bone. Section six, Tumors of bone in special localities. Tumors of the skull—jaw bone—thoracic wall—pelvic bones—vertebral column—hands and feet. Tumors of bone in childhood. Section seven, Surgical treatment. Section eight, Radiation therapy. Section nine, Constitutional therapy. Effects of bacterial products on tumors of bone. Biochemical treatment of tumors of bone. Treatment with radioactive isotopes. Section ten, Lesions of the skeletal system that may simulate neoplasms of bone. Section eleven, Miscellaneous: Pathologic fracture. Medicolegal aspects of trauma in tumors of bone. The experimental production of bone sarcoma. Index.

Note. A comprehensive work written from the clinical viewpoint. The 74 subsections cover all facets of the subject which are pertinent to diagnosis, prognosis, and treatment. Most of the conditions discussed are shown also in the illustrations. An unusual feature is the inclusion of more than 30 tables in which data from case histories are summarized. The book is based primarily on the author's extensive experience in the Bone Tumor Department of Memorial Hospital for Cancer and Allied Diseases in New York City. However, here he has also searched the literature and has incorporated the pertinent results of other workers in the field. Each of the sections concludes with bibliography.

CONFERENCE ON CANCER DIAGNOSTIC TESTS

Proceedings of the first Conference on Cancer Diagnostic Tests, sponsored by the National Advisory Cancer Council, 1950 Federal Security Agency Public Health Service National Institutes of Health, National Cancer Institute. Washington, D C. Government Printing Office, 1951 91 p. illus. 23 cm. (United States. Public Health Service. Publication no 96) Paper $0.30. 1276

Note: A collection of the papers and discussions, together with bibliographical references, that constituted the proceedings of conference held in Chicago on October 14 1950. The conference was divided into three successive sessions, at each of which the pattern was the same: main speaker followed by three or four members of panel he spoke more briefly. The three sessions covered the three fields in which the chief diagnostic test work had been done, namely blood proteins, enzymes, and immunology. The work is of interest primarily to medical clinicians and to biochemists and other scientists engaged in research in the field.

CORSCADEN, JAMES ALBERT

Gynecologic cancer Baltimore The Williams & Wilkins Company 1951 368 p illus. 23 cm. $6.00. 1277

Contents: Introduction. Diagnosis. Cancer of the vulva. Cancer of the vagina. Cancer of the cervix. Cancer of the corpus uteri. Neoplastic diseases of the chorion. Cancer of the fallopian tube. *Cancer of the ovary.* The menopause. *Management of the cancer patient.* The nature of cancer. Index.

Note. The author stressing the importance of early detection, shows that the cures in cases of gynecologic cancer can today be more than doubled without the discovery of any new principle or technique in diagnosis or therapy and puts the responsibility upon the medical profession. The work is comprehensive illustrated manual for either general practitioner or specialist. The bibliographical references at the ends of the chapters are both extensive and up to date.

CUNEO, HENRY M AND CARL W RAND

Brain tumors of childhood. Springfield Ill. Charles C Thomas, 1952 224 p illus. 23 cm. (American lecture series. Publication no 104 A monograph in American lectures in surgery) $5 75 1278

Contents: Astrocytoma. Medulloblastoma. Craniopharyngioma. Ependymoma. Pinealoma. Papilloma of the choroid plexus. Glioblastoma (spongioblastoma) multiforme. Meningioma. Glioma of the optic nerve. Metastatic and malignant invasive tumors. Eosinophilic granuloma of bone, xanthomatosis and reticulo-endotheliosis. Infectious granulomata. General considerations. Index.

Note: A monograph based primarily on decade of experience in the Children's Hospital in Los Angeles during which "83 verified cases of brain tumor and/or granulomatous lesions were encountered" and secondarily on the literature. The classes of tumors named in the table of contents above are discussed against background of actual case histories. The 60 illustrations are largely drawn from the same cases. The book is of interest to tumor specialists and pediatricians.

DYER, HELEN MARIE

An index of tumor chemotherapy A tabulated compilation of data from the literature on clinical and experimental investigations. Washington D C. Government Printing Office, 1950 329 p. 23 × 29 cm. (United States. Federal Security Agency Public Health Service) Paper 1279

Contents. Historical record. Selection of material for the Index. Classified index of therapeutic data: Inorganic compounds. Metal— and halogen—containing organic compounds. Organic sulfur compounds and sulfur derivatives of miscellaneous organic compounds. Organic compounds. Aliphatic compounds. Aromatic compounds. Miscellaneous carbocyclic compounds. Miscellaneous heterocyclic compounds. Aldehydes. Alkaloids. Antibiotics. Carbohydrates. Carcinogenic compounds. Dyes. Lipids. Mustard gas and nitrogen mustards. Miscellaneous oils. Proteins and protein derivatives. Sulfonamides and related substances. Vitamins, provitamins and vitamin antagonists. Peroxides. Radioactive agents. Miscellaneous materials; Coagulants and anticoagulants of blood. Enzymes. Hormones. Plant products. Venoms. Alphabetical index of agents. References.

Note. A comprehensive survey of the literature on the treatment of tumors by chemical methods is presented in this index for investigators in cancer research. The work consists of four parts: (1) 13 pages of introductory text, (2) 148 pages of the classified tabulated index of chemotherapeutic tests, comprising 3011 numbered items, (3) 33 pages of alphabetic index, and (4) 94 pages containing 2313 bibliographical citations of periodicals and other sources for the indexed items. Tabulated for each of these 3011 reported experiments are the following: its number the name of the chemical agent, the type of tumor the species (whether man, dog, rabbit, rat, mouse, etc) f the host, the number of hosts involved in the experiment, the dosage, the number and period of treatments, the route (whether oral, local, injected, subcutaneous, inhaled, etc.) of the treatment, the effect (or effects) claimed, the reference number to the bibliographical list, and the date of the report.

ELLER, JOSEPH JORDAN AND WILLIAM DOUGLAS ELLER

Tumors of the skin benign and malignant. Second edition thoroughly revised and enlarged 550 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1951 697 p. illus. (part col d) 24 cm $15 00 1280

Contents General considerations. Benign tumors of the skin: Tumors of connective tissue origin. Tumors originating from muscle or nerve tissue. Nevi and other developmental disturbances of the skin. Tumors of infectious origin. Precancerous conditions of the skin. Malignant tumors of the skin. Carcinomas of the skin. Malignant melanoma. Sarcomas. Lymphomas (leukosis) Cutaneous surgery and plastic repair of skin tumors. Radiation physics. Author's index. Subject index

Note (1446) Skin tumors and tumors of other tissues, such as those of the mouth, which are often first seen by the dermatologist are covered in this book The treatment is comprehensive with emphasis on diagnosis and treatment. The book is based both on the authors' own extensive experience and on the literature. A considerable fraction of the illustrations are photographs selected from wide range of cases Extensive bibliographies are included. The revisions and additions made to the text, illustrations, and bibliographies for this edition are substantial.

FARBER SEYMOUR MORGAN AND OTHERS

Cytologic diagnosis of lung cancer By Seymour M Farber Milton Rosenthal, Edwin F Alston Mortimer A. Benioff and Allen K. McGrath, jr Springfield *Illinois* Charles C Thomas 1950 59 p illus 29 cm. $7.50 1281

Contents. Introduction Evolution of cytologic technique. Technique. *Histology of the respiratory tract in normal and benign pathologic conditions.* Pathology of bronchogenic carcinoma. Technical advantages for the study of cell detail with wet smears. Identification of non-malignant cells. Cytologic criteria of malignancy Clinical material and data. Clinical and pathologic results. Conclusion. Bibliography Color plates.

Note. An authoritative work on the diagnosis of lung cancer by examination of sputum and bronchial washings, technique hich affords much earlier diagnosis than is possible with other diagnostic procedures. The work is based on study of 1128 cases. Cytologic diagnosis was found to be fully as accurate as bronchoscopy However the authors point that is sensitive method that is reliable only after the cytologist has gained considerable experience with it. A bibliography lists 98 references. There are 60 reproductions in color of microphotographs of tissues and cells.

GATES, OLIVE, AND SHIELDS WARREN

A handbook for the diagnosis of cancer of the uterus by the use of vaginal smears. With a *foreword by George N Papanicolaou.* Third edition. Cambridge, Mass. Harvard University Press 1950 214 p illus. 28 cm. Paper $5 50 1282

Contents General considerations relating to the vaginal smear method. Technique. Morphology of genital tract. Normal cytology of the vaginal smear Pathology of cancer of the uterus. Characteristics of malignant cells in smears. Diagnosis of smears taken following radiation therapy Sources of error in diagnosis. General aids in use *of the vaginal smear method.* Current appraisal of the vaginal smear method. The vaginal smear in relation to carcinoma in situ and early carcinoma. References. Plates. Index.

Note (1124) *A standard laboratory guide written for both the* practicing pathologist and the laboratory technician. The material is presented so as to be of particular value to those who must resort to self-training in learning this technique for detecting cancer in its incipient forms. The third edition reflects further experience with the technique and some extension of its applications. Changes have been made in the text of all but two of the chapters. The wide interest in the technique is reflected in the 70 references which have been added to the bibliography 18 illustrations have been added.

GESCHICKTER CHARLES FREEMAN, AND MURRAY M. COPELAND

Tumors of bone. Third edition. 642 illustrations. Philadelphia J B Lippincott Company 1949 810 p illus. 26 cm. $17.50 1283

Contents (abridged) Part One, Embryogenesis of bone and its relation to skeletal tumors. Part Two, Tumors of osseous origin: Osteochondromas. Multiple exostoses or hereditary deforming chondrodysplasia. Chondromas or chondromyxomas. Forms of osteogenic sarcoma—primary chondrosarcoma—secondary chondrosarcoma. Chondroblastic tumors; benign and malignant. Osteogenic sarcoma. Histologic variants of the bone cyst and the multiple form of osteitis fibrosa (von Recklinghausen's disease) Fibrous dysplasia. Benign giant-cell tumor—osteoclastoma. Microscopic variants and recurrent cases of giant-cell tumor. *Extraskeletal* giant-cell tumors. Part Three, Tumors of nonosseous origin: Ewing' sarcoma. Multiple myeloma. Skeletal metastases arising from carcinoma and neuroblastoma. Osseous changes in disease of the bone marrow and lymphoid tissue. Fibrosarcoma of the bone and bone involvement by direct extension of sarcoma of the neighboring soft parts. Part Four, Tumors of specialized skeletal structures: *Primary tumors of the cranial bones.* Tumors of the jaw Tumors of tendon sheaths, joints and bursae. Tumors of the spine. Part Five, Differential diagnosis: Differential diagnosis. Juvenile lesions of bone. Endocrinopathies and rare diseases of bone. Index.

Note. A carefully prepared reference book for the roentgenologist, the pathologist, the surgeon, and the practitioner The various bone tumors are individually presented roentgen observations, microscopic features, clinical course and diagnosis, prognosis, and treatment are discussed. The text, referring to an extensive international literature, is accompanied by excellent illustrations. More than 400 case reports are condensed in tabular form. The third edition, published 13 years after the second one, includes number of new chapters, such as those devoted to fibrous dysplasia, osteoid osteoma, tumors of the spine, endocrine changes in bone, and rare diseases of bone. Several older chapters have been entirely rewritten. There are also many new illustrations.

HARTWELL JONATHAN LUTTON

Survey of compounds which have been tested for carcinogenic activity Second edition. Washington D C. Government Printing Office, 1951 583 p. illus. 24 cm. (United States Federal Security Agency Public Health Service. Publication no. 149) $4.25 1284

Contents: Introduction. Tabular review Inorganic compounds. Organic compounds: Aliphatic. Monocyclic. Bicyclic. Tricyclic. Tetracyclic. Pentacyclic. Hexacyclic and higher. Azo compounds. Unclassified. Addenda. Bibliography. Heterocyclic compounds.

ography Compound index. Route index. Site-of-application index. Species index. Tumor-site index. Vehicle index.

Note: This book lists in systematic fashion 1329 chemical compounds which have been tested on animals, chiefly mice and rats, for carcinogenic activity as reported in the literature of the subject through 1947. Only chemical compounds are listed. Mixtures such as tars, irradiated sterols and articles of diet were excluded. Also excluded were reports where the observations extended for period of less than one month from the first administration. Tabulated for each compound are the following: reference to the literature by author and date, animal and number of animals, strain or type of animal, sex, preparation and dose, site and route, number of animals with tumors and the type of tumor if any, survival records, and duration of the experiment. The first edition of the survey was published in 1941. The second edition included the tests that were listed in the first edition and about as many more, the results of which were published from 1940 to 1947

MULLIGAN RICHARD MICHAEL

Syllabus of human neoplasms. With 230 illustrations. Philadelphia Lea & Febiger 1951 317 p. illus. 26 cm. $7.50 1285

Contents: Introduction. Epithelial neoplasms of skin and appendages. Neoplasms of mesenchymal origin. Neoplasms of neuroectodermal origin. Neoplasms of the alimentary tract. Neoplasms of the respiratory tract. Neoplasms of the urinary tract. Neoplasms of male genitalia. Neoplasms of female genitalia. Neoplasms of endocrine glands Miscellaneous neoplasms. Supplement. Index.

Note: An introductory guide addressed to medical students, interns, and graduate practitioners of medicine. Pathological and clinical features of the common neoplasms are correlated. Data are included on incidence by age, sex, and race, and on survival rates. The illustrations are reproductions of microphotographs. Literature references are included in the chapters. The author is Professor of Pathology in the School of Medicine of the University of Colorado.

MURPHY, DOUGLAS POWER

Heredity in uterine cancer Cambridge, Mass. Published for The Commonwealth Fund by Harvard University Press 1952 128 p. 22 cm. $2 50 1286

Contents (abridged) Section I, The literature: Study by Bobeck of familial incidence of uterine cancer. Other reports of familial occurrence of cancer and related diseases. Discussion of the literature. Section II, Materials and methods: Purpose of investigation. Pilot and main studies. Plan of investigation. Cancer probands. Control probands. Sources of information for locating individuals. Family visiting. Compilation of family record. Coding of histories. Section III, The results: The tables. Characteristics of probands. Characteristics of relatives. Section IV, Discussion Selection of the families. Methods employed in collecting data. Results. Conclusions. References. Index.

Note: A report of study conducted to find out whether disposition toward cancer is inherited. Data were collected on the occurrence of cancer among the relatives of 201 women who were suffering from uterine cancer and from the relatives of 215 control probands, total of 6,445 individuals. The methods of study are fully described and the results are analyzed in series of more than 50 tables. Among the conclusions is "the evidence supports the conclusion that heredity factors affect the frequency with which cancer appears in the uterus. The author is associated with the Gynecean Hospital Institute of Gynecologic Research of the University of Pennsylvania.

NATIONAL CANCER CONFERENCE

Proceedings of the first National Cancer Conference. American Cancer Society and The National Cancer Institute of the U S. Public Health Service, Federal Security Agency 1949 310 p. illus. 23 cm. 1287

Contents (abridged) Outline of the conference: its background and its purposes, by C. S. Cameron. Part one, Biological phenomena of growth: Differentiation of strains of guinea pigs under inbreeding, by S. Wright. Mutations in transplantable tumors, by G. D. Snell. Phosphatases of the mitotic apparatus in cultured normal and malignant mouse cells, by J J. Biesele. Chromosomes, chemical stimulators, and inhibitors of normal and abnormal plant growth, by A. F Blakeslee. The problem of cellular differentiation, by P Weiss. Genetic evidence of vertebrate individuality, by M. R. Irwin. Androgens and growth phenomena, by C. E. Moore. Factors influencing endometrial growth in monkeys, *Macaca mulatta*, by F L. Hisaw Mode of action of the nitrogen mustards—a new working hypothesis and its possible relation to carcinogenesis, by A. Haddow Part two, Principal addresses: Time and the cancer problem, by E. C. D. Hickman. Fundamental scientific research and its applications, by B. Cohen. Part three, Panel discussions: Tumors of the reproductive tracts and breast, including endocrinology The lymphoblastomas. Head-and-neck tumors. Lung cancer. Soft-part tumors. Bone tumors. Tumors of the nervous system. Epidemiology including environmental and occupational cancer. Professional education techniques as they relate to cancer. Services and facilities. Cancer registration. Administration of grants in cancer Index.

Note: The conference whose proceedings are published in this work was planned effort to foster communication of ideas among various groups of researchers, clinicians, and others concerned with the cancer problem. Nine formal papers and two addresses, whose titles and authors are given above, were presented on the first day of the conference. The rest of the proceedings consisted of panel discussions. In the published volume the summaries of the panel discussions occupy three-fifths of the space. The work is convenient and readable summary of the fundamentals of cancer knowledge with some emphasis on cancer research as of 1949.

NETTLESHIP ANDERSON

Basic principles of cancer practice a book on diagnosis, prognosis, and treatment of human neoplasms for the general practitioner and medical student. Baltimore The Williams & Wilkins Company 1952 398 p. illus. 24 cm. $7 00 1288

Contents (abridged) The status of present day cancer practice. Clinical behavior of neoplasms. Methods of cancer diagnosis. The clinical pathology of neoplasms. Local and systemic effects of cancer. Treatment of cancer. Neoplasms of children. Neoplasms of the skin. Neoplasms of the gastro-intestinal tract, liver, and pancreas. Neoplasms of the breast. Neoplasms of the female genital system. Neoplasms of the male genito-urinary system, kidney bladder, and prostate. Neoplasms of blood forming organs. Neoplasms of the lung, nasopharynx, larynx, trachea, and bronchi. Neoplasms of bone, muscle, and connective tissue. Neoplasms of the central nervous system. Neoplasms of the endocrine organs. A review of the biochemistry of cancer. Relation of occupation and trauma to cancer. Index.

Note: The expressed purpose of this book is to make available to advanced medical college students and general practitioners of medicine the highlights of the contemporary status of cancer diagnosis and treatment. The physician is offered information on general aspects such as the pathological behavior of tumors and also on very specific topics such as the current status of hormone therapy No subject is covered exhaustively Good literature lists are included for those physicians who wish to read further There are 106 figures. The purpose of the book is to alert the general physician to the detection of cancer and to inform him about therapies and about the prognoses of various types. The author is Professor of Pathology in the University of Arkansas.

RANKIN FRED WHARTON AND A. STEPHENS GRAHAM

Cancer of the colon and rectum its diagnosis and treatment. Second edition. Springfield, Illinois Charles C Thomas, 1950. 427 p. illus. 24 cm. $8 50 1289

Contents: Part I, General considerations: Anatomy and physiology Incidence, occurrence and etiology Pathology Symptoms and diagnosis. Differential diagnosis. Part II, Treatment. Operability resectability and prognosis. Choice of operation. Radiotherapy of carcinoma of the rectum. Operative mortality and end-results. Preoperative and postoperative treatment. Part III, Operative procedures: Historical considerations. Procedures for overcoming obstruction. Procedures for extirpation of lesions of the colon. Procedures for extirpation of lesions of the rectosigmoid, rectum, and anus. Palliative and miscellaneous procedures. Author index. Subject index.

Note: A treatise for graduate physicians and surgeons. The importance of early diagnosis is emphasized and the authors describe the various techniques of diagnosis and differential diagnosis fully. About half of the book is devoted to descriptions of the surgical techniques and related matters of concern to the surgeon. The book is on the authors' own extensive experience and also on the experience of others as reported in the literature. A wide range of data on such details as frequency of symptoms, accuracy of diagnosis

and mortality rates is presented in more than 100 tables. Extensive bibliographies are included. The first edition appeared in 1939. Much important material has been added in this edition.

REESE, ALGERNON B

Tumors of the eye. With 511 illustrations, 122 in full color New York Paul B Hoeber, Inc., 1951 574 p. illus. (part col'd) 27 cm. $20 00 1290

Contents: Epithelial tumors of the lid, conjunctiva, and cornea. Epithelial tumors of the uvea. Retinoblastoma. Glioma. Meningioma. Tumors of the peripheral nerves. Pigmented tumors. Angiomatous tumors. Leiomyoma. Rhabdomyoma, rhabdomyosarcoma, myosarcoma, and granular cell myoblastoma. Fibroma, fibrosarcoma, myxoma, and myxosarcoma. Bony and cartilaginous tumors—ossification. Lymphomatous tumors, myeloma, and chloroma. Mixed tumors, carcinoma, muco-epidermoid tumor, and adenoma of the lacrimal gland. Dermoid cyst, dermoid tumor, dermolipoma, and teratoma. Neoplastic metastasis to the eye and orbit. Orbital neoplasms and lesions simulating them. Index.

Note. A comprehensive presentation of the accumulated knowledge of tumors of the eye and its adnexa. The main emphasis is on the clinical aspects of the subject, but many of the illustrations of malignant growths are potentially of interest also to specialists in pathology and tumors. Unusual and unique tumors are described as well as those of more common occurrence. Radiation therapy and surgery are both covered. The author has surveyed the literature and has included extensive bibliographies to which statements in his text are keyed. However much of the material in the book has been drawn from his own experience at the Institute of Ophthalmology in Presbyterian Hospital and other institutions in New York City

SACHS ERNEST

Diagnosis and treatment of brain tumors and care of the neurosurgical patient. Second edition. 348 illustrations and ten color plates. St. Louis The C. V Mosby Company 1949 552 p. illus. (part col d) 25 cm. $16 00 1291

Contents: Surgical anatomy and physiology. Methods of examination. The surgical pathology of brain tumors. General symptoms and signs of increased intracranial pressure. Cerebral tumors, local signs and symptoms. Tumors of cerebellum, pons, and medulla. Diseases of the pituitary gland. Differential diagnosis between brain tumors and other conditions. Anesthesia. Operative technique and general discussion of neurosurgical methods. Cranial cases with the operative procedures that were employed. Spinal and peripheral nerve operations. Closure of wounds. Postoperative care. Review of neurological surgery and glimpse into its future. Index.

Note. (1214) In this work the author's *Diagnosis and treatment of brain tumors*, St. Louis, 1931 and his *The care of the neurosurgical patient before, during and after operation*, St. Louis, 1945, have been integrated and at the same time revised and expanded. The new work—which apparently takes its edition numbering from *Diagnosis and treatment of brain tumors*—is an inclusive treatise suitable for study by advanced students in medical colleges who are preparing for the specialty of neurology and young neurosurgeons. Operative techniques are described explicitly and are shown in the illustrations, which include a number of roentgenograms. A considerable range of case histories is included. Selected references to the related literature have been supplied as footnotes.

VINCENT MEMORIAL HOSPITAL

The cytologic diagnosis of cancer By the staff of the Vincent Memorial Laboratory of the Vincent Memorial Hospital, a gynecologic service affiliated with the Massachusetts General Hospital, Boston, Massachusetts. The Department of Gynecology, Harvard Medical School. Published under the sponsorship of the American Cancer Society Philadelphia W B Saunders Company 1950 229 p. illus. (part col d) 25 cm. $7 00 1292

Contents: Normal cells from cervical and vaginal squamous epithelium. Normal cells from columnar epithelium of endocervix and endometrium. Cells not originating from epithelium of female genital tract. Squamous cell carcinoma of the cervix. Adenocarcinoma of the endometrium. Adeno-acanthoma of uterus. Other tumors of the female genital tract. Radiation changes in normal and malignant cells of the vaginal secretion. Cells of squamous epithelium of respiratory tract. The columnar epithelium of respiratory tract. Cells of non-epithelial origin in sputum. Squamous cell carcinoma of the lung. Other types of pulmonary carcinoma. Normal columnar cells from gastric mucosa. Carcinoma of the stomach. Normal cells of the urinary tract. Carcinoma of the genito-urinary tract. Normal cells of pleural and peritoneal fluid. Malignant cells in pleural and peritoneal fluid. Technic. Appendix. Bibliography. Index.

Note. A reference and study guide for physicians, cytologists, and other persons who are concerned with the interpretation of smears taken in the diagnosis of not only genital cancer but cancer of the lung and respiratory tract, cancer of the stomach, etc. A considerable part of the space has been devoted to reproductions of microphotographs, some of which are reproduced in color. Specific discussions of the microphotographs are preceded in each chapter by background discussion of the histology of the tissue that forms the subject of the particular chapter. Special emphasis is given to the interpretation of difficult smears and to the correct identification of cells that are deviations from normal forms. The book is based on very extensive experience with cytologic diagnosis at the Vincent Memorial Hospital Laboratory

WARD, GRANT EBEN, AND JAMES W HENDRICK

Diagnosis & treatment of tumors of the head and neck (not including the central nervous system) Baltimore The Williams & Wilkins Company, 1950. 832 p. illus. 26 cm. $15 00 1293

Contents: Introduction. The early development of the head and neck. Benign tumors and premalignant lesions of skin of the head and neck. Malignant neoplasms of the skin of the head and neck. Benign tumors and premalignant lesions of the lips. Cancer of the lips. Benign tumors and premalignant lesions of the oral cavity. Malignant tumors of the oral cavity Cancer of the tongue and floor of the mouth. Tumors of the jaws. Salivary gland tumors. Tumors of the tonsils, pharynx and base of tongue. Tumors of the paranasal sinuses and nasal mucous membranes. Tumors of the eye and adnexa. Tumors of the ear. Tumors of the larynx. Tumors primary in the neck. Tumors primary in the lymph nodes of the head and neck. Metastatic tumors of the neck. Tumors of the skull. Rehabilitation. Index.

Note: A full-scale treatment of clinical aspects designed both for general practitioners and specialists. The senior author organized the tumor clinics at the Johns Hopkins Hospital and the University of Maryland Hospital, and the junior author was associated with him at both institutions. The book is based mainly on the extensive experience of the authors, but information has been included from the published literature. Also some sections, for instance the one on malignant tumors of the nasal pharynx, have been written especially for this book by other specialists. The work is lavishly illustrated and there are extensive reference lists.

PEDIATRICS

ADVANCES IN PEDIATRICS. Volume V Editor S Z. Levine, associate editors, Allan M. Butler Margaret Dann L. Emmet Holt, jr., and A. Ashley Weech. Chicago The Year Book Publishers, Inc., 1952 272 p. illus. 24 cm. $7.00 1294

Contents: Advances in the treatment of bacterial meningitis, by H. E. Alexander. The nephrotic syndrome in children, by H. L. Barnett and others. The relation of vitamin K deficiency to hemorrhagic disease of the newborn, by H. Dam and others. Angiocardiographic studies in children, by J. Lind and C. Wegelius. Iron metabolism in infants and children—serum iron and iron binding protein—diagnostic and therapeutic implications, by C. K. Smith and others. BCG vaccination, by A. J. Wallgren. Subject index. Author index.

Note: (1129*) As in the earlier volumes of this series, each of the chapters or papers is a monographic survey of recent investigations and discoveries in a specific area of pediatrics. An extensive list of references is included to which statements in the papers are keyed. The editorial plan is thus different from reviews in which the significant literature of a single year is surveyed. The series is addressed to general practitioners of medicine.

THE AMERICAN ACADEMY OF PEDIATRICS. COMMITTEE FOR THE STUDY OF CHILD HEALTH SERVICES

Child health services and pediatric education. Report of the Committee for the Study of Child Health Services of the American Academy of Pediatrics with the cooperation of the United States Public Health Service and the United States Children's Bureau. New York The Commonwealth Fund, 1949 270 p. illus. 23 cm. $3 50 1295

Contents (abridged) Part I, Child health services: The study of child health services. Total volume of child health services. Private practice. Hospitals. Community health services. Health supervision for the preschool child. Part II, A, Undergraduate education. Part II, B, Graduate education. Staff in hospitals approved for pediatric residency. General inpatient training. Outpatient training. Ward rounds and conferences. Part III, General summary. References. Appendix. Tables referring to pediatric education. List of 70 approved medical schools in the United States, 1946–1947. Staff of pediatric departments in each of three groups of medical schools. Clinical facilities for pediatric teaching in each of three groups of medical schools. Content of pediatric course in each of three groups of medical schools. Pediatric department and medical school budgets in each of three groups of medical schools.

Note. This volume reports the results of a three-year study the objective of which was to bring attention to deficiencies in child health services and pediatric education in the United States with a view to correcting them. As the task assigned to the Study Committee was to collect the facts and report them, the Committee did not attempt to formulate recommendations based upon the findings. The Committee's supplement to this report *Child health services and pediatric education—methodology and tabulations on services*, New York: Commonwealth Fund, 1949 30 p $3.50 contains statistical tables and a survey of the methods pursued in gathering the data.

BRIDGE, EDWARD M.

Epilepsy and convulsive disorders in children. New York McGraw Hill Book Company Inc. 1949 670 p illus. 24 cm. (McGraw Hill series in health science Amos Christie, consulting editor) $10.50. 1296

Contents: Part one: Introduction and general concept. The hereditary factor. The factor of brain injury. Physiological factors. Personality factors. Environmental factors. The total background of epilepsy. Part two: The onset of epilepsy. Major seizures. Minor seizures. General management. Dietary treatment. Psychotherapy. Outcome. Community aspects and prevention. Part three: Diagnostic procedures. Appendix: Outlines for clinical study. Evaluation of etiologic factors. Screening tests of maturity and intelligence. Statistical recording of data. Care of patients. Prescriptions and preparations in common use. Determination of bromide in blood. Normal diets. Ketogenic diets. Dehydration diets. Creative activities for children with epilepsy. Occupations for persons with epilepsy. Alphabetical list of references. Index.

Note: An important work which is based principally on material accumulated at the Epilepsy Clinic organized in 1935 at Johns Hopkins Hospital where a group of pediatricians, psychiatrists, neuro-surgeons, social workers, laboratory technicians, and representatives from community agencies formed a team to study the various aspects of the problem. The clinical problems of causation and diagnosis, the sociological and psychiatric aspects, and details of practical care of affected children are considered. Each chapter opens with a pictorial table of contents which, with the other excellent illustrations, are aids in assimilating the material. The style is technical, and the book is intended for physicians, social workers, and others with professional training rather than lay readers. A 21-page bibliography is appended.

CAMPBELL MEREDITH

Clinical pediatric urology With a section on nephritis and allied diseases in infancy and childhood by Elvira Goettsch and John D Lyttle. Philadelphia W B Saunders Company 1951 1113 p. illus. 26 cm. $18.00 1297

Contents: Methods of examination and diagnosis. Urinary obstruction. Embryology and anomalies of the urogenital tract. Urinary infections. The male genital tract and the female urethra. Urogenital injuries. Urinary calculous disease. Tumors of the urogenital tract. The adrenals. Neuromuscular uropathy. Enuresis. Urologic surgery. Operative procedures. Nephritis and allied diseases in infancy and childhood. Index.

Note: A comprehensive treatise based both on the author's own experience in the urology of infants and children and on the pertinent literature. Although much information that is necessarily basic to adult urology as well has been necessarily included, the book's special value lies in its full discussion of the special diagnostic and operative techniques required in urologic practice with children. The long chapter (198 pages) on embryology and anomalies is of special interest to pediatricians and to urologists with pediatric practices. There are 543 figures, a considerable number of which contain reproductions of more than one drawing or photograph. Long bibliographies accompany all of the chapters. The author is Professor of Urology in New York University Post-Graduate Medical School.

CHOBOT, ROBERT

Pediatric allergy New York McGraw Hill Book Company Inc. 1951 284 p. illus. 21 cm. $6.00 1298

Contents: Forms of hypersensitivity. Diagnostic procedures. Asthma. Food allergy. Vasomotor rhinitis. Hay fever: pollens—molds and fungi. Skin allergies. Serum reactions and drug allergy. Allergy of the eye. Migraine. Physical allergy. ACTH, cortisone, and the future. Appendices: Anaphylaxis and human sensitivity. Common allergens. A typical allergen test table. Cases. Index.

Note. A relatively brief text and manual. The author has made no attempt to include something on every phase of the subject or to illustrate a wide range of cases. Instead he has presented a simple, to-the-point survey of topics most useful to the pediatrician and the general practitioner who is not a specialist in allergy. Selected literature references are included in most chapters. Synopses of 28 cases are given in an appendix. The author is Director of the Pediatric Allergy Clinic of New York University-Bellevue Center.

GREULICH WILLIAM WALTER, AND S IDELL PYLE

Radiographic atlas of skeletal development of the hand and wrist. Based on the Brush Foundation study of human growth and development, initiated by T Wingate Todd. Stanford, California Stanford University Press, 1950 190 p. illus. 31 cm. $10.00 1299

Contents (abridged) The rationale and technique of assessing the developmental status of children from roentgenograms of the hand and wrist. The need for a dependable method of determining the physical developmental status of children. The inadequacy of height-weight-age tables for determining developmental status. The relationship of the developmental status of the skeleton to that of the reproductive system. The relationship of the developmental status of the reproductive system to the degree of general bodily maturity. Skeletal status and general bodily maturity. Some effects of illness on the developing skeleton. The value and the limitations of the X-ray film of the hand in appraising the physical developmental status of children. How the standards were selected. Maturity indicators. How to proceed in assessing a hand film. A graphic method of recording skeletal assessments. What constitutes a significant deviation from normal? Male standards. Female standards. Maturity indicators of individual bones and epiphyses.

Note: A reference work based upon an original study carried on from 1931 through 1942 on a group of children without gross physical or mental defects. "The children were examined at three months intervals during the first post-natal year, at six months intervals from 12 months to five years of age, and annually thereafter. At each examination the child was measured and weighed, X-ray films were made of left shoulder, elbow, hand, hip, knee, and foot; psychometric and other psychological tests were administered; and a health history covering the period since the previous examination was obtained from the parents and the family physician. On the basis of the study the standards and the maturity indicators—to which about three-fourths of the space in this volume is devoted—were constructed. Each standard is in the form of a radiograph with accompanying legend. The maturity indicators are presented in the form of diagrammatic sketches of bones and epiphyses. In the

preliminary portion of the book relationships among skeletal developments and other manifestations of development, such as changes in the reproductive system, are discussed. The book is of interest to pediatricians, public health nurses, and other persons who are concerned with the development status of infants and children.

GRULEE, CLIFFORD GROSELLE, AND R. CANNON ELEY

The child in health and disease a textbook for students and practitioners of medicine. Second edition. Baltimore The Williams & Wilkins Company, 1952 1255 p illus 26 cm. $15 00 1300

Contents (abridged) General considerations. Nutrition. The newborn and prematurity Communicable diseases Acute infections. Chronic infections. The circulatory system including the blood, spleen, and lymph nodes. Blood and lymph. The respiratory system. The gastro-intestinal tract. The genito-urinary tract. Diseases of the nervous system including mental deficiency and psychiatric disturbances. The muscles, bones, and joints. Allergy eczema, and diseases of the skin The endocrines, abnormal endocrine states, obesity, dwarfism. The eye Adolescence. Surgical conditions and surgical principles in pediatrics. Miscellaneous subjects. Index.

Note (1132*) There are 100 chapters in the present edition of this comprehensive practical text and reference book. The 89 contributors represent not only the special field of pediatrics but also allied fields such as neurology orthopedics, bacteriology pathology dermatology dentistry and otolaryngology The typical chapter is concise, well-organized statement of the main facts on specific topic which is of concern to the pediatrician such as urinary infections, and it is supplemented by literature references. The second edition of the work is 190 pages longer than the first edition published in 1948. Several new chapters have been added and revisions have been made in most if not all of the chapters carried over

HAAS, SIDNEY VALENTINE AND MERRILL PATTERSON HAAS

Management of celiac disease. Philadelphia J B Lippincott Company 1951 188 p. illus. 24 cm. $5 00 1301

Contents. Scope and purpose of the work. History Definition. Incidence. Etiology Clinical symptoms Pathology Roentgenographic evidence. Digestion and absorption. Digestive juices, enzymes, etc Endocrine system. Nervous system and psychological considerations. Allergy Diagnosis Treatment. Prognosis. Celiac disease today—a concept based on the authors' experience. Course. An etiologic hypothesis. Summary Bibliography Index.

Note A monograph on digestive dysfunction of infancy and early childhood, defined by the authors in the following words: we define celiac disease as condition, seen primarily in infancy and childhood, here there exists prolonged intermittent diarrheal state resulting in various degrees of malnutrition. The authors' viewpoint is primarily clinical. They point out that the etiology of the disease is still unknown and that is "no clearcut diagnostic test or procedure Prognosis, however is excellent if polysaccharides (complex carbohydrates) are removed from the diet and monosaccharides, together with proteins and fats, substituted. The book is based both on the authors' extensive experience and on review of the literature. That is bibliography of 443 references.

HESS JULIUS HAYS AND EVELYN C LUNDEEN

The premature infant medical and nursing care. 101 illustrations. Second edition. Philadelphia J B Lippincott Company 1949 381 p. illus. 21 cm. $6 00 1302

Contents (abridged) Physiologic development. Growth and development. Minimum requirements for nurseries for full-term infants and premature infant stations Incubators. Routine of the premature infant station and routine procedures. Immediate care after birth. Transportation. Home care. Feeding and feeding technics. Breast milk. Artificial feeding. Vitamins and medication. Medical therapeutic agents. General therapeutic measures. Oxygen therapy Hemorrhage in the newborn premature. Erythroblastosis fetalis. The liver and bile passages. The skin. The eyes. The ears. Diseases of the respiratory tract. Disorders of the gastro-intestinal tract. Hernia. Anemia in the premature infant. Rickets, tetany and scurvy Meningitis. Syphilis. Later physical and mental development. Index.

Note (1117) A standard treatment for the instruction and guidance of nurses and physicians who are concerned with the care of premature infants. The subject is covered fully and techniques are described in detail. Much important material has been added to this edition including newly added information on the Rh factor, the use of antibiotics, and methods of feeding. Also, there new chapter in hich city-wide and state-wide plans for the care of premature infants in various parts of the United States of America are described.

LANMAN, JONATHAN T

Modern trends in infant nutrition and feeding With a foreword by L. Emmett Holt, jr New York Sugar Research Foundation, Inc., 1952 96 p illus. 23 cm. (Scientific report series. No. 14) 1303

Contents Historical. The composition of milks. Nutritive requirements in infancy: Protein. Fat. Carbohydrates. Water. Vitamins. Minerals. Trace elements. Feeding in infancy Bibliography.

Note. A convenient summary of accumulated knowledge and guide to selection of the significant literature. Although entitled Modern trends it is based on the literature and consists of accepted opinions and of facts derived from experimental investigations. Part of its usefulness derives from the existence of literature on the minor aspects of the subject as ell as on the major ones. There are 184 references in the bibliography Although sponsored by an organization dedicated primarily to research in the common sugars, there is no bias in favor of sugar except for table which shows that among the carbohydrates commonly used in infant feeding, sugar was the lowest in cost in New York in January 1952.

MEDICAL CLINICS OF NORTH AMERICA

Symposium on pediatrics. Philadelphia number Philadelphia W B Saunders Company 1952 1513–1875 p. illus. 23 cm. (Medical clinics of North America, November 1952) Cloth, $18 00 per year paper $15.00 per year 1304

Contents. Foreword, by W E. Nelson. The pediatric health examination, by T E. Shaffer. Developmental appraisal by the general practitioner by M. Sarchek. Posture changes in the growing child, by P A. Barba. Mother-child relationship in the first year, by J. A. by E. M. Flach. The relation of the family to the hospital, by J. A. Ross. Practical aspects of infant feeding, by E. P Baron. The first day of life—the physician's responsibility by C. C. Fischer. Management of the premature infant, by M. Kendall. Extraintestinal diarrhea by P E. McDonald. Lead poisoning in children, by E. A. Apathy Immunization procedures in private practice, by A. C. McGuinness. Antibiotics in pediatric practice, by A. D. Hunt, jr. The treatment of meningeal, miliary and pulmonary tuberculosis in children, by R. H. High. Encephalitis associated with the exanthems, by T F McN Scott. Infectious mumps and vaccination procedures, by T F McN Scott. Infectious (epidemic) hepatitis in infancy and childhood, by M. E. Drake. Recognition and management of rheumatic fever in childhood, by R. Ash. Clinical diagnosis of congenital heart disease, by C. R. E. Wells Cardiac catheterization and contrast study of the heart and great vessels in congenital cardiovascular defects, by D. F Downing. Iron deficiency in infants and children, by N J. Smith. Hemorrhagic disease in children—notes on its pathological physiology and clinical management, by L. M. Tocantins and R. Rodriguez. Precocious puberty and pseudopuberty by K. E. Paschkis. Gynecologic problems in the preadolescent and adolescent years, by E. R. Carrington. Diagnosis and treatment of hydrocephalus, by M. Scott. Nonfectious common lesions of infants and children, by H. M. Sinclair. Management of hernias in infants and children, by S. L. Crowe. Undescended testicle—differential diagnosis and management, by C. E. Koop. The deaf child, by D. Myers. Cancer in childhood, by J. R. Arey Index to volumes 34, 35 and 36 (1950, 1951 and 1952).

Note *Medical clinics of North America* is published six times year Each issue is devoted to symposium on topic of current importance. The November, 1952 issue contains the original papers in pediatrics which are listed above. Literature references are included with the papers and many of them are illustrated. The total number of figures in the book is 201. An unusual feature of this number is the inclusion of cumulative index to the *Medical clinics of North America* for the years 1950, 1951, and 1952.

NELSON WALDO EMERSON editor

Mitchell Nelson textbook of pediatrics. With the collaboration of sixty-three contrib-

utors. Fifth edition with 426 illustrations, 19 in color Philadelphia W B Saunders Company 1950 1658 p. illus. 26 cm. $13.50 1305

Contents (abridged) The field of pediatrics. Care and evaluation of well children. General factors in the care of sick children. Prenatal disturbances. The newborn infant. The premature infant. Unexpected sudden death. Nutritional disturbances. Miscellaneous diseases. Malignant tumors in early life. Infectious diseases. Poisoning from drugs, metals and food. The digestive system. The respiratory system. The blood. The spleen. The lymphatic system. The thymus gland. Disturbances of cellular fluid metabolism and related conditions. The genito-urinary system. Psychologic disorders. Disorders in language functions. The nervous system. Convulsive disorders. The cerebral palsies. The endocrine system. Diabetes mellitus. Hypoglycemia. The bones and joints. The muscles. Allergic diseases. The skin. The eye. Adolescence. Appendix. Index.

Note: (1133) A standard textbook for medical students and office reference book for medical practitioners. The scope and organization are indicated by the section titles given above. The typical section consists of a number of signed chapters supplemented by literature references. The chapter authors are outstanding teachers and practitioners in pediatrics and allied fields such as neurology pathology and dermatology The fourth edition published in 1945 was the first one edited by Professor Nelson, a former pupil of Dr. Mitchell, the original author of the work. That edition was a very substantial revision; however in the edition at hand the book has again been extensively revised. New sections have been added, and most of those carried over from the preceding edition have been rewritten in some degree.

RATNER, BRET

Allergy in relation to pediatrics. An official publication of The American College of Allergists. Saint Paul Bruce Publishing Company *1951 228 p. illus. 20 cm. $3 75 1306*

Contents: Genesis of allergy in infancy and childhood, by B. Ratner. Site of formation of antibodies, by T M Harris. Infection in the allergic child, by B. F Feingold. Critical evaluation of diagnostic tests for sensitization in infancy and childhood, by M. M. Peshkin. Significance of skin tests in respiratory and dermatologic allergy by L. W Hill. Asthma before the age of two, by W P Buffum. Asthma and hay fever in childhood, by E. R. O'Keefe. Allergy of the intestinal tract, by W A. McGee. Neurological allergy by R. C. Dees. Less commonly recognized allergic conditions in infants and children, by A. J. Horesh. Maternal infections in allergic children, by D. W Baruch and H. Miller. Prophylaxis of allergy in children, by R. H. Todd. Environmental control, by W C. Deamer. Drug therapy in hay fever and asthma in children, by J C. Overall. Practical treatment of eczema in the infant and young child, by A. V Stoesser. Office management of the allergic child, by J Glaser.

Note: The papers presented in cooperation with members of the Allergy Section of the American Academy of Pediatrics at the fifth annual meeting of the American College of Allergists in April, 1949 are collected in this volume. One contributor is a psychologist; all of the others are medical practitioners or teachers. Most of the medical practitioners are specialists in allergy or pediatrics. The book is of value both to specialists and to general practitioners.

SMITH CLEMENT ANDREW

The physiology of the newborn infant. Second edition. Springfield, Illinois Charles C Thomas 1951 348 p. illus. 24 cm. $8.50 1308

Contents. Introductory. Respiration—*fetal* aspects—neonatal aspects. The circulatory system. The blood. Icterus neonatorum. Metabolism and heat regulation. The physiology of the digestive tract. Fetal and neonatal nutrition—assimilation and metabolism of specific food substances. Minerals and vitamins. Renal physiology—regulation of water and electrolytes. Neonatal endocrinology. Neonatal immunology. Index.

Note: The physiology of the period of life in which more physiological alterations and adjustments occur than in any other comparable span is the subject of this book. Except for the omission of a discussion of the nervous system, the subject is covered thoroughly with careful cross-referencing between the text and the literature citations in the extensive chapter bibliographies. Some data based on animal experimentation are included, but most of the information has been derived from observations on human infants. The book is of primary interest to obstetricians and pediatricians.

The first edition was published in 1945. Revisions have been made in the text of most chapters and the length of the book has been extended by 25 pages. Recent literature has been added to the bibliographies.

SLOBODY, LAWRENCE BORIS

Survey of clinical pediatrics. New York McGraw Hill Book Company Inc., *1952 471* p. 24 cm. $7.50 1307

Contents: Growth and development. Feeding of infants and children. Vitamins. Preventive pediatrics. Psychologic problems. Treatment. Fluid and electrolyte balance. The normal newborn infant. Diseases of the newborn. Prematurity. Infectious diseases. Respiratory diseases. Heart disease. Gastrointestinal diseases. Surgical conditions of the abdomen. Genitourinary diseases. Neurologic conditions. Diseases of the skeletal system. Blood disorders. Neoplasms of infancy and childhood. Endocrine diseases. Allergy. Skin disorders. References. Index.

Note: Based on material previously used in teaching by the pediatric staff of the New York Medical College, this textbook covers the subject for medical students and general practitioners who wish to have the facts of modern practice in a convenient format. The outline form is the principal method of presentation and, together with the 22 tables in the text, is skillfully used to give a wealth of essential information at a glance. Most of the book is made up of condensed monographs on specific diseases and abnormalities. In general the material on a specific disease covers etiology, clinical features, diagnosis, prognosis, and treatment. The up-to-date bibliography consists of five books for general collateral reading and 33 books for additional readings on particular subjects. Dr. Slobody received the 1950 award of the Association for Help of Retarded Children.

TALBOT NATHAN BILL, AND OTHERS

Functional endocrinology from birth through adolescence. By Nathan B Talbot, Edna H. Sobel, Janet W McArthur [and] John D Crawford. Published for the Commonwealth Fund. Cambridge, Massachusetts Harvard University Press 1952 638 p. illus. 26 cm. $10.00 1309

Contents: The thyroid. The parathyroids. The adrenal cortex. The adrenal medulla. The ovaries. The testes. The anterior pituitary. The posterior pituitary. The pancreatic islets. Appendix. Index.

Note. This book covers (to use the words of the authors) "the actions of endocrine systems in health and ordinary disease and ... the management of endocrinopathies as they appear in young people." It is addressed to graduate practitioners, particularly pediatricians and general practitioners, but the authors have not assumed any previous knowledge of endocrinology on the part of the reader. *Within the age limitations as stated the field is covered comprehensively* with particular emphasis on diagnostic and clinical aspects. Although *for* practical purposes the book is self-contained, literature references are included. The first-named author is Associate Professor of Pediatrics in the Medical School of Harvard University.

TOVERUD KIRSTEN UTHEIM AND OTHERS

Maternal nutrition and child health an interpretative review By Kirsten Utheim Toverud, Genevieve Stearns and Icie G Macy Prepared for the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council, Icie Macy Hoobler chairman. Washington D C. Published by the National Research Council, National Academy of Sciences, 1950 174 p illus. 25 cm. (National Research Council. Bulletin number 123 November 1950) Paper $2.00 1310

Contents (abridged) Maternal and infant mortality. Specific nutritional factors in maternal and infant health. Energy value and proximate composition. Composition of milk. Calcifying processes. Vitamin D. Vitamin A. Vitamin C. Thiamine. Riboflavin. Niacin. Folic acid. Iron. Vitamin K. Iodine. Preconceptional, prenatal, and postnatal care. Bibliography

Note: A compact presentation of accumulated knowledge and experience. The principal author was Dr Toverud, Norwegian whose professional career was devoted chiefly to the relationships between maternal nutrition and child health. The work was completed after Dr Toverud' death by the other authors named on the title page. It is based mainly on critical review of the world literature. The essential facts are stated in the text and the statements are referenced to the source articles. There are 17 tables of data. The bibliography contains 1008 citations.

WILKINS, LAWSON

The diagnosis and treatment of endocrine disorders in childhood and adolescence. Springfield Illinois Charles C Thomas, 1950 384 p. illus. 29 cm. $15.00. 1311

Contents (abridged) Endocrine relationships and their influences upon growth and development. Methods of endocrine study and diagnosis. Thyroid disorders. Dwarfism. Variations in the pattern of adolescent development. Sexual precocity of isosexual pattern. Sexual infantilism. Adrenal cortex—hormones and their actions—adrenal insufficiency—hypercorticism—adrenogenital syndrome and Cushing's syndrome. Heterosexual development. Pituitary tumors and intracranial lesions causing endocrine disorders. Diabetes insipidus. Calcium and phosphorus metabolism. Carbohydrate metabolism and spontaneous hypoglycemia. Obesity Congenital anomalies sometimes mistaken for endocrinopathies. Index.

Note. The emphasis in this work is on clinical diagnosis, and special attention is given to recently developed diagnostic tests and techniques. Differential diagnoses are discussed. Current methods of treatment are outlined. The book is based largely on studies done at the Johns Hopkins Hospital. There are more than 400 illustrations including six reproduced in color A considerable number of the illustrations are photographs of endocrine cases. Each chapter concludes with list of references to related literature.

YEAR BOOK OF PEDIATRICS

The 1952 year book of pediatrics (June, 1951–May 1952) Edited by Sydney S. Gellis. Isaac A. Abt, editor emeritus. Chicago The Year Book Publishers Inc., 1952 423 p. illus. 20 cm. $5.50 1312

Contents The premature and the newborn. Nutrition and metabolism. Infectious diseases and immunity Allergy Dentistry and otolaryngology Ophthalmology Respiratory tract. Gastrointestinal tract. Genitourinary tract Heart and blood vessels. Blood. Endocrinology Orthopedics Dermatology Neurology and psychiatry Therapeutics and toxicology Miscellaneous Index. Index to authors.

Note. (1138*) An annual volume organized and edited on the same plan as other books in this useful series The chapters consist of fairly long abstracts of important articles selected from the medical periodicals of the world issued during the period noted in the title. In numerous instances the abstract is supplemented by an editorial comment which criticizes the conclusions of the author or relates them to other studies on the same subject. There are 112 figures in the present issue.

ZIEGLER, ROBERT F

Electrocardiographic studies in normal infants and children. Springfield Illinois Charles C Thomas 1951 207 p illus. 29 cm. $10 50 1313

Contents Introduction and review of the literature. Material and method. The cardiac mechanism Auricular activation and auriculo-ventricular conduction Ventricular activation Electrical axes of QRS and T and the ventricular gradient The initial ventricular deflections. The final ventricular deflections. Representative electrocardiograms at various ages. Appendix. Statistical data in the study of electrocardiograms of normal infants and children Definition of terms. Index.

Note. This work is the result of planned effort to establish standards of normal for the electrocardiogram of infants and children without heart disease. It is based on the electrocardiograms of three groups of children ranging in age from birth to 16 years and totaling 613 in number A series of electrocardiograms identified with the sex and age of the subject are reproduced. The appendix contains series of charts on which the observed percentage incidence and the predicted distribution of values for such measurements as heart rate, duration of P-wave measured in seconds, and amplitude of T-wave in precordial lead V6 measured in 1/10 millivolt. Both the observed and the predicted charts are arranged by age groups. The author is in charge of the Section of Pediatric Cardiology in the Henry Ford Hospital in Detroit.

GERIATRICS

LANSING, ALBERT INGRAM, editor

Cowdry's Problems of ageing: biological and medical aspects. Third edition, edited by Albert I. Lansing. Baltimore The Williams & Wilkins Company, 1952 1061 p. illus. $15.00. 1314

Contents: Section I, Biological and cellular problems of ageing: General physiology by A. I. Lansing. Ageing of tissue fluids, by E. V Cowdry Ageing of individual cells, by E. V Cowdry Ageing processes considered in relation to tissue susceptibility and resistance, by W deB. MacNider. Quantitative histochemical changes in ageing, by O. H. Lowry and A. B. Hastings. Chemical aspects of ageing and the effect of diet upon ageing, by C. M. McCay Longevity in retrospect and in prospect, by L. I. Dublin. Section II, Clinical and organic problems of ageing: Ageing in the nervous system, by J. L. O'Leary The eye, by J. S. Friedenwald. The ear by W P Covell. The heart and great vessels in old age, by P D. White. Hematologic values in the aged, by J B. Shapleigh and others. Arteriosclerosis (lipid metabolism) by J M. Steele. Experimental hypertension, by W S. Hartroft. The thyroid, pancreatic islets, parathyroids, adrenals, thymus, and pituitary by A. J. Carlson. Cytologic changes in the cells of the pituitary thyroids, adrenals, and sex glands of ageing fowls, by F Payne. Homeostatic and histochemical aspects of the endocrine glands, by E. W Dempsey Ageing of homeostatic mechanisms, by N. W Shock. Teeth and jaws, by H. B. G. Robinson and L. R. Boling. Digestive system, by A. C. Ivy and M. I Grossman. Lymphatic tissue, by W Andrew The respiratory system in the aged, by H. A. Bickerman. Age changes in renal function, by N W Shock. Urinary system, by J. R. Oliver. Female reproductive system, by W H. Masters. Male secondary sexual organs, by R. A. Moore. Male reproductive system, by E. T Engle. Metabolism of specialized tissues and changes associated with ageing, by J. E. Kirk and P F Hansen. Ageing of the skin, by Z. K. Cooper. Skeleton, by W M. Cobb. Surgical problems in the aged, by R. Elman. Anesthesia in the aged, by E. Apgar. Degeneration and regeneration, by W B. Kountz. Cancerological aspects of ageing, by M. Cheatle. Rehabilitation for the chronically ill and aged, by H. A. Rusk and E. J. Taylor. Cancer and ageing, by J. A. Barton, Jr. Section III, Social and economic problems of ageing: Trends in the ageing population, by P M. Hauser and E. Shanas. The older worker in industry by R. K. Burns and L. R. Brown. Roles and status of older people, by E. J. Havighurst. Personal adjustment in old age, by R. S. Cavan.

Note (1316) A distinguished and useful work in which specialists in gerontology and related subjects cover the developments of the last decade and also discuss significant trends. As the section and chapter titles show the book is not limited to the biological and medical aspects, but includes also papers on social and economic phases. The first two editions were edited by Edmund Vincent Cowdry who is contributor to the third edition. The book is of interest to general practitioners, specialists in geriatrics, graduate physiologists, and other persons with professional interests in the medical and socio-economic questions generated by the ageing process and the increasing numbers of the aged.

MONROE, ROBERT THORNHILL

Diseases in old age a clinical and pathological study of 7941 individuals over 61 years of age. Cambridge Harvard University Press, 1951 407 p. 22 cm. (Harvard University monographs in medicine and public health, editorial committee, A. Baird Hastings, chairman. Number 11) $5.00. 1315

Contents: General features of the group. Diseases of the nervous system. The cardiovascular system. Diseases of the respiratory system. Diseases of the gastrointestinal system. Diseases of the kidneys. Diseases of the [illegible] ureter and bladder Diseases of the blood. Diseases of the endocrine system. Venereal diseases. Nutritional disorders and alcoholism. Diseases of the bones and joints. Malignant disease. Summary of [illegible]

cal findings. The community resources essential for old people. References. Index.

Note: A study based chiefly on the records of the Peter Bent Brigham Hospital, Boston, from 1913 to 1941. Approximately 100 tables of statistical data are accompanied by critical interpretative text. Included are social and psychological factors as well as pathological findings and therapy. Tentative conclusions are drawn, but the author points out the need for many more such studies before geriatrics can be established as a distinct field of medicine.

SHOCK NATHAN WETHERIL

A classified bibliography of gerontology and geriatrics. Prepared for Stanford University under a grant from The Forest Park Foundation Peoria, Illinois. Stanford California Stanford University Press, 1951 599 p. 28 cm. $15.00 1316

Contents (abridged) History of aging: Cellular biology and physiology. Climacteric. Exercise. Longevity. Metabolism. Nutrition. Physiological age. Rejuvenation. Theories. Organ systems: Blood. Cardiovascular system. Connective tissue and cartilage. Endocrine system. Gastro-intestinal tract. Kidney. Lymphatic system. Muscular system. Nervous system. Reactions of the body as a whole. Reproductive system. Respiratory system. Sense organs. Skeletal system. Skin and integument. Urogenital system. Geriatrics: Medical care. Diagnosis and physical examinations. Disease. Surgery. Psychological processes: Intellectual functions. Motor responses. Personality. Social and economic aspects: Miscellaneous: Historical references. Lay texts. Research methods, organizations, programs and institutes. Abbreviations of journals cited. Index of authors. Index of subjects.

Note: A comprehensive, international bibliography. The classification is detailed. Shown above are part titles and the titles of main subdivisions. However, the larger subclasses, for instance endocrine system, are broken down into appropriate subgroups. Titles are given for the cited publications in addition to other usual bibliographical data. The number of references exceeds 18,000. The United States Public Health Service, Stanford University, and the Forest Park Foundation shared in the work's preparation.

GYNECOLOGY AND OBSTETRICS

BECK, ALFRED CHARLES

Obstetrical practice. Fifth edition. Baltimore The Williams & Wilkins Company 1951 1073 p. illus. 26 cm. $10 00 1317

Contents (abridged) The ovarian cycle. Relation of menstruation to ovulation, fertilization, and implantation. Chronological development of pregnancy Physiology of the fetus. Diagnosis of pregnancy Management of pregnancy Presentation, position and posture. Management of labor The puerperium. Lactation. Multiple pregnancy Diseases of the decidua and fetal membranes. Abortion. Ectopic gestation. Medical and surgical complications of pregnancy The pathology of labor. Faulty passages. Placenta previa and abruptio placentae. Retained and adherent placenta. Postpartum hemorrhage. Puerperal infection. Artificial interruption of pregnancy Methods used to hasten or complete the dilatation of the cervix. Forceps. Cesarean section. Destructive operations. Repair of lacerations. Resuscitation of the newborn child. Analgesia amnesia and anesthesia. Appendix. Index.

Note: (1146) A standard and widely used textbook and reference book which is notable for the clarity of both the text and the drawings. The discussions are unusually detailed and practical. Many of the drawings were done in sequences so as to show successive steps of procedure. The work was extensively rewritten for the present edition, and important additions were made in both the text and illustrations. There are now 947 figures of which about 100 are new and about 400 are redrawings of illustrations that appeared in the previous edition. Also, 22 reproductions of radiograms have been added at the end. The scope and the plan of the book are unchanged.

BRADY LEO AND OTHERS

Essentials of gynecology Second edition. By Leo Brady, Ethna Louise Kurtz, and Eileen McLaughlin. New York The Macmillan Company, 1950 256 p. illus. 21 cm. $3 50 1318

Contents: Anatomy Physiology of the female reproductive organs. The gynecological history and examination. Gynecological symptoms and their importance. The gynecological infections. Uterine displacements and obstetrical injuries. Ectopic or extra-uterine pregnancy Sterility Gynecological cysts and tumors. Gynecological surgery The equipment and supplies in the gynecological operating room. The student nurse in the operating room. Postoperative treatment. Postoperative complications. Female urology Radiation therapy in gynecology Index.

Note. (2157) An authoritative and useful outline for student nurses. It is based primarily on requirements and practices at Johns Hopkins Hospital. The chapter on radiation therapy in gynecology is newly added, certain other chapters and passages—particularly that on equipment and supplies in the gynecological operating room—have been rewritten.

CURTIS ARTHUR HALE, AND JOHN WILLIAM HUFFMAN

A textbook of gynecology Sixth edition with 466 illustrations, chiefly by Tom Jones, including 37 in color Philadelphia W B Saunders Company, 1950 799 p. illus. (part col d) 26 cm. $11.00. 1319

Contents (abridged) Section I, Anatomy Section II, Physiology (exclusive of the endocrine glands) Section III, The endocrines. Section IV, History and examination. Section Infectious processes Gonorrheal diseases of the female genitalia. The "cellulitis group" of pelvic infections. Genital tuberculosis. Syphilis. "Nonspecific" infections. Section VI, Tumors of the uterus. Section VII, Tumors of the ovary Tumors of fallopian tubes, ligaments and pelvic cellular tissues. Section VIII, Displacements and relaxations. Section IX, Disturbances of function. Section X, Endometriosis. Ectopic pregnancy. Leukorrhea. Genital fistulae. Backache. Disturbances of the pelvic veins. Endometritis. Lesions of the cervix. Inversion of the uterus. Congenital malformations. The early months of pregnancy (from gynecological aspect) Urinary tract problems in gynecology Radiotherapy Index.

Note. (1149*) The first edition of this standard text for medical college students appeared in 1930. This sixth edition is the first one to bear the name of a collaborating author. The scope and purpose are unchanged; the book is still primarily text and secondarily reference book for general practitioners and gynecologists. The fifth edition was published in 1946. For this edition two chapters were extensively revised, some new material was added to other chapters, and selection of recent literature was added to the reference lists. Before his retirement the senior author was Chairman of the Department of Obstetrics and Gynecology in the Medical School of Northwestern University The junior author is currently Associate Professor of Obstetrics and Gynecology in the same school.

DECKER ALBERT

Culdoscopy, a new technic in gynecologic and obstetric diagnosis. With a foreword by Richard W TeLinde, Philadelphia W B. Saunders Company 1952 148 p. illus. 22 cm. $3.50. 1320

Contents. Culdoscopy: its history and development. Anatomy of the vagina. The Decker culdoscope. Culdoscopic technic. Culposcopic contents. Ectopic pregnancy Culdoscopy in the management of sterility Culdoscopic stenosis and insufflation. Pneumoperitoneum. Culdoscopy in the diagnosis of endometriosis. Culdoscopic observation of ovulation and ovum transfer. Endoscopic photography Case reports. References.

Note: A thorough and adequately illustrated presentation of relatively new instrument and technique which permit visual examination of the pelvic viscera in the course of diagnosis. It is addressed to graduate obstetricians and gynecologists. The bibliography is comprehensive.

EASTMAN NICHOLSON JOSEPH

Williams obstetrics. Tenth edition. New York Appleton-Century-Crofts, Inc. 1950. 1176 p illus. 25 cm. $12 50. 1321

Contents (abridged) Section one, Orientation. Section two, Anatomy and physiology of reproduction. Section three, Management of normal pregnancy Section four, Physiology and conduct of labor. Section five, The puerperium and the newborn. Section six, Abnormalities of pregnancy. Section seven, Abnormalities of labor. Section eight, Abnormalities of the puerperium. Section nine, Abnormalities of the newborn. Section ten, Operative obstetrics. Index.

Note: (2378) A long-established standard textbook. The first six editions were written by J. Whitridge Williams, the next three were the work of Henricus J. Stander The present edition is the first one prepared by Eastman, who is Professor of Obstetrics in Johns Hopkins University and Obstetrician-in-Chief to the Johns Hopkins Hospital, positions which were held by Williams during his professional career In comparison to the preceding edition the book has been very extensively revised both in the text and illustrations. However, its purpose remains the same. It is still intended for the instruction of upperclass medical college students and the guidance of graduate general practitioners. Selected but very extensive bibliographies are appended to most of the chapters, and there are now 639 figures.

FAULKNER, ROBERT LEE, AND MARION DOUGLASS

Essentials of obstetrical and gynecological pathology Second edition. With 300 illustrations including 3 color plates. St. Louis The C. V Mosby Company 1949 357 p illus. (part col d) 26 cm. $8.75 1322

Contents: The surgical specimen. Elementary histology The vulva. The vagina. The cervix. The endometrium. The myometrium. Endometriosis. The fallopian tube. The ovary Pregnancy Index.

Note: A simplified and straightforward presentation written for medical college students who are not primarily interested in pathology and for graduate medical practitioners who want quick survey of current knowledge. Almost as much space is given to illustrations as to text. All but few of the illustrations are reproductions of ordinary photographs or microphotographs of pathological specimens. There is no bibliography The authors are present and former faculty members of the Medical School of Western Reserve University The first edition was published in 1939. In this edition many new illustrations have been added and there have been some revisions, mostly of minor nature, in the text.

FLUHMANN CHARLES FREDERIC

Medical treatment in obstetrics & gynecology Baltimore, Maryland The Williams & Wilkins Company 1951 157 p. illus. 24 cm. $3 00. 1323

Contents: Diagnosis and medical therapy in obstetrics and gynecology Therapeutic measures. Nutrition. Office and hospital procedures. Index.

Note: An office reference book which contains concise information on many topics ranging from suggesting diets for pregnant women to lists of equipment for treatment room associated with physician's office. A tabulation of useful drugs is included. The miscellaneous material even includes suggested "permission forms" for operations and treatments. Some literature references are supplied. The author is Clinical Professor of Obstetrics and Gynecology in the School of Medicine of Stanford University

GREENHILL JACOB PEARL

Principles and practice of obstetrics. Originally by Joseph B DeLee. Tenth edition with 1140 illustrations on 864 figures, 194 in color Philadelphia W B Saunders Company, 1951 1020 p. illus. (part col d) 26 cm. $12 50 1324

Contents (abridged) Part I, The physiology of reproduction, pregnancy labor and the puerperium: Physiology and conduct of pregnancy Physiology and conduct of labor Physiology and conduct of the puerperium. Part II, The pathology of pregnancy labor and the puerperium: The pathology of pregnancy Pathology of labor. Pathology of the puerperium. Operative obstetrics. Index.

Note. (1150*) A standard text and reference book with lineage going back to the first edition published in 1913. It covers the care of obstetrical cases from conception through the puerperium. Surgical procedures associated with delivery are fully covered. The illustrations are exceptionally clear and numerous. The present edition represents another very extensive revision in both text and illustrations. Some of the changes are due to planned effort by four leading American authors of textbooks on obstetrics to achieve more uniformity in definitions, terminology classifications, and procedures. Others are due to advances in knowledge and techniques, while still others are apparently changes and additions suggested by the users of the previous edition.

GREENHILL JACOB PEARL

Surgical gynecology, including important obstetric operations. Illustrated by Angela Bartenbach. Chicago The Year Book Publishers Inc., 1952 350 p. illus. 21 cm. $8.50. 1325

Contents: Preoperative preparation and postoperative care and complications. Vulvar and perineal operations. Vaginal operations. Abdominal operations. Index.

Note: In this book the first chapter is 70 pages long; and the remainder of the space except that occupied by the index is devoted to 101 plates, most of which contain reproductions of several drawings. The book is organized so that plate on left hand page faces page of printed text of description of the particular plate. The illustrations were made from original drawings of techniques employed by the author who is Professor of Gynecology in Cook County Graduate School of Medicine. The book is potentially of interest to general surgeons and to beginners in gynecology

INTERNATIONAL CONGRESS ON OBSTETRICS AND GYNECOLOGY

Transactions of the International and fourth American Congress on Obstetrics and Gynecology Sponsored by the American Committee on Maternal Welfare, Inc. Held in New York City, New York, May 15–19 1950 Edited by George W Kosmak. Published as a supplementary volume to the American journal of obstetrics and gynecology volume 61A June, 1951 St. Louis The C. V Mosby Company 1951 823 p. 26 cm. o.p. 1326

Contents (abridged) The implantation and early development of the human ovum, by A. T Hertig and J. Rock. On some hormonally induced complications of gestation, by R. Courrier Contractility of the human uterus and its physiological basis, by S. R. M. Reynolds. The management of occiput posterior positions, by G. W Gustafson Genetics in cancer, by C. Little. The relationship of viruses to neoplastic disease, by H. B. Andervont. Hormonal factors in experimental ovarian tumorigenesis, by W U. Gardner. Studies on the circulation in normal and toxemic pregnancies, by C. Kennedy The etiological aspect of toxemia of pregnancy and abruptio placentae, by S. Mira. Some present trends in the management of the toxemias of pregnancy by H. B. Van Wyck. Experience with radiotherapy in carcinoma of the uterine cervix, by H. L. Kottmeier The early diagnosis of uterine cancer, by H. F Traut. Shifting trends in abdominal hysterectomy by T C. Peightal. The logical approach to prolapse, by E. Stacey The influence of inherited cranial form on the course of labor, by E. Philipp. Tuberculosis of the female genital tract and its detection by examination of the uterine secretions, by I. Halbrecht. Creation of new vagina with amniotic membranes, by S. Vidakovic. Treatment of varicose veins in pregnancy by E. Solomons. Indications and contraindications for cesarean section, by H. E. Schmitz and J. E. Towne. Pregnancy and delivery following cesarean section, by S. A. Cosgrove. Our experiences in the use of Decker's culdoscope, by A. G. F Ramon. The management of the pregnant diabetic patient, by W P. Given. Endocrine therapy in gynecology, its uses and its possibilities, by E. Rydberg. The nature of the blood coagulation mechanism and its relationship to some unsolved problems in obstetrics and gynecology by W H. Seegers and C. L. Schneider. Prophylactic attempts to control fetal erythroblastosis by diet, by R. S. ten Berge. On the pathogenesis and life history of endometriosis, by J. Varangot. Experimental endometriosis, by R. W T Linde and R. B. Scott. The kidney in abruptio placentae, by H. L. Sheehan. Genital cancer and pregnancy by J De Rezende. Tubal obstruction as cause of sterility and its nonoperative treatment, by I. C. Rubin. Physiology of the isthmus uteri and its part in sterility and habitual abortion, by R. Palmer. Rational endocrine therapy in infertility by M. E. Davis. The association of intercurrent disease and obstetric shock, by H. R. MacLennan. Alterations in the coagulation mechanism as cause of intra- and postpartum hemorrhage, by D. E. Reid. Studies on crystallization of cervical mucus and its relationship to cervical receptivity of spermatozoa, by A. Campos da Paz. The painless delivery in saddle block anesthesia, by G. Dellepiane. Our experience with the Wertheim operation, by J. A. Bulnes. Authors' index. Subject index.

Note: A collection of the papers which were presented on the occasion indicated in the volume title. Although number of the papers were written in languages other than English, all were translated into English for the volume. Following presentation at the Congress each paper was discussed by participants. Transcripts of these discussions follow the individual papers in the book.

KLEIN HENRIETTE R. AND OTHERS

Anxiety in pregnancy and childbirth. By Henriette R. Klein Howard W Potter and Ruth B Dyk. New York Paul B Hoeber,

Inc. 1950. 111 p. 24 cm. (A psychosomatic medicine monograph) $2 75 1327

Contents: Description of study. Attitudes and reactions towards conception and pregnancy. Anxieties—expectations and misconceptions. Psychosomatic relationships in pregnancy and childbirth. Summary. Bibliography. Appendices. Case histories.

Note: This study of the attitudes and anxieties of 27 primiparous patients was made at the Long Island College Hospital in New York City under the sponsorship of the Committee on Obstetrics and Gynecology of the American Psychosomatic Society. The findings of the study are presented in the first 70 pages, most of the remaining space is taken up with summarized case histories.

KROGER, WILLIAM S., AND S CHARLES FREED

Psychosomatic gynecology including problems of obstetrical care. Philadelphia W B Saunders Company 1951 503 p. 25 cm. $8 00 1328

Contents (abridged) Part I, Psychosomatic aspects of fetus and infant: The maternal-fetal relationship—the prenatal period. The postnatal period—breast feeding and rooming-in plan. The significance of early psychosexual development to gynecologic disorders. Part II, Psychosomatic aspects of the mother during pregnancy: Psychosomatic aspects of pregnancy by G. D. Read. "Suggestive relaxation" or hypnosis in labor—psychologic and physiologic aspects of analgesia and anesthesia. Miscellaneous obstetric conditions. Part III, Psychosomatic aspects of neuroendocrinology: Neuroendocrine mechanisms—their psychosomatic aspects. Menstrual dysfunctions. Part IV Common psychosomatic problems: Psychogynecic aspects of contraception. Sterility Frigidity Low back pain. Obesity Menopause. Miscellaneous psychosomatic disorders. Glossary Index.

Note: A pleasant summary of current thought, some of it controversial in nature, but most of it deserving of attention from practicing obstetricians and gynecologists. It was based chiefly on survey of selected literature, and statements in the text are keyed to the chapter bibliographies. Although psychoanalytical terminology is used to considerable extent, the authors have succeeded in presenting the subject so that their discussions can be understood by medical practitioners who are not specialists in psychoanalysis.

LOWRIE, ROBERT J editor

Gynecology diseases and minor surgery Vol. I. Compiled and edited by Robert J Lowrie. Foreword by Claude E. Heaton. Springfield, Illinois Charles C Thomas, 1952 806 p 27 cm. $22 50 3129

Contents (abridged) Section I, Anatomy and physiology of the female reproductive system and associated structures: Vulva, vagina, musculature, fascia, peritoneum, cervix, uteri, corpus uteri, urethra, bladder and rectum, by J. W Davies. Vascular system of the female pelvis, by W Filler. Innervation of the female pelvis, by J. R. Labate. Section II, Normal and abnormal development: Embryological and histological development of the female genital tract, by P J Kearns. Anatomical formations in the female genital tract with associated developmental defects, by P J. Kearns. Section III, Diagnostic methods. Section IV Endocrine principles, menstrual and cyclic phenomena. Endocrine principles, by R. C. Freed. The normal menstrual cycle, by J P Greenhill. Section V, Venereal diseases and tuberculosis. Section VI, Diseases and conditions of the vulva and vagina: Inflammatory and other diseases and conditions of the vulva, by M. D. Speiser. Trichomonas vaginalis vaginitis, by W Filler. Malignant diseases of the vulva, by C. White. Benign and malignant tumors of the vagina, by R. M. Rutherford. Urinary incontinence in the female, by W T Kennedy Urinary fistulas, by J. C. Mair. Disorders of the immature vulva and vagina, by G. C. Schauffler Section VII, Diseases and conditions of the uterus: Clinical aspects of the developmental anomalies of the uterus, by R. J. Lowrie and S. J. Siegel Chronic inflammatory and traumatic lesions of the cervix, by M. C. Sturgis Malignant disease of the cervix uteri, by J. V Meigs. Malignant disease of the corpus uteri, by F A. Pemberton. Displacements of the uterus, by R. J Lowrie. Endometriosis, by W A. Scott Abortion and miscarriage, by R. N Rutherford. Section VIII, Diseases and conditions of the fallopian tube, ovary and pelvic ligaments. Clinical aspects of the developmental anomalies of the fallopian tube, ovary and the pelvic ligaments, by R. J Lowrie. Puerperal sepsis, pelvic cellulitis and thrombophlebitis, by W K. Stockford. Benign and malignant tumors of the fallopian tube and pelvic ligaments, by L. A. Emge. Ectopic pregnancy—(ectopic gestation, extrauterine gestation, extrauterine pregnancy tubal gestation, tubal pregnancy) by H. B. Atlee. Section IX, Menstrual disorders, functional disease of the endometrium, the abnormal menopause. Section X, Abnormalities of the reproductive and sex functions: Infertility in women, by S. J. Kleegman. Contraception, by C. L. Mendelson. Section XI, Physical therapy and minor gynecological surgery Section XII, Medications. Subject Index. Author Index.

Note: In this first volume published of projected two-volume work there are 33 contributed chapters, of which selection is noted above. The second volume will be devoted to surgery The level of treatment is post-graduate, and most of the chapters are concise. Generally speaking, the following points are covered for each disease incidence, etiology pathology, signs and symptoms, diagnosis, therapy and prognosis. Illustrations are adequate and bibliographies are included in the chapters.

MAZER CHARLES, AND S LEON ISRAEL

Diagnosis and treatment of menstrual disorders and sterility Third edition, revised. With 137 illustrations. New York Paul B Hoeber Inc. 1951 583 p. illus. 24 cm. $10.00 1330

Contents (abridged) The pituitary gland. The ovary Puberty in the female. The normal menstrual cycle. The hormonal balance of the normal menstrual cycle, by W H. Perloff. Dysmenorrhea as an abnormal manifestation of the menstrual cycle. Premenstrual tension as an abnormal manifestation of the menstrual cycle. Migraine as an abnormal manifestation of the menstrual cycle. Breast hyperplasia as an abnormal manifestation of the menstrual cycle. Vicarious menstruation as an abnormal manifestation of the menstrual cycle. Amenorrhea. Diagnosis and treatment of hypomenorrhea. Uterine bleeding. Sterility Artificial insemination. The diagnosis and treatment of male sterility by C. W Charny Critical analysis of etiology and treatment of 697 cases of primary and secondary sterility. Relative sterility Appendix—the available endocrine products. Index.

Note. (1137*) Although intended for both students and practitioners of medicine, this standard work is aimed primarily at the family physician who is usually the first to treat women who are suffering from sterility and from menstrual disorders. Procedures which can be carried out in the physician's office are emphasized, and treatments which require special technical skill or elaborate equipment available only in hospitals are not described in detail. The second edition appeared in 1944. Although only 14 pages longer, a considerable range of information has been added in this edition including a discussion of the menstrual toxin theory, clinical evaluation of the Papanicolaou vaginal smear, the medical treatment of endometriosis, etc. Also there has been some revision of the illustrations and the bibliography

MEIGS, JOE VINCENT, AND SOMERS H. STURGIS, editors

Progress in gynecology Volume II. New York Grune & Stratton, 1950. 821 p. illus. 24 cm. $9.50 1331

Contents (abridged) Growth and physiology: Embryology and development of the female reproductive tract, by W Schiller. The ovary Functioning ovarian neoplasms, by M. R. Dockerty The morphological and endocrine basis for menstrual bleeding, by J. E. Markee. The intrinsic metabolism of the endometrium of the uterus, by J. C. [illegible] The endometrial biopsy by [illegible] R. C. Hughes. Diagnostic methods. Endometrial biopsy by [illegible] Burch and D. Phelps. The clinical evaluation of the vaginal smear, by S. L. [illegible] by R. M. Graham. Diagnostic tests for pregnancy by [illegible] Functional disorders: Functional [illegible] of uterine bleeding. The ovary by E. C. Hamblen. Dysmenorrhea, by F M. Ingersoll. The [illegible] genital syndrome of aplastic ovaries, by M. B. Goldberg and [illegible] Lisser The psychiatric component in gynecology by H. Deutsch. Interrelationship of endocrine glands: Hormones in relation to the [illegible] mones of the female, by I. T. Nathanson. The corpus luteum hormone in gynecology by J. S. L. Browne and others. The thyroid in gynecology, by J Lerman. Gonadotropins in gynecology by W E. Brown and J. T Bradbury The relation of the adrenal cortex to gynecology, by E. C. Reifenstein. Androgen therapy in gynecology, by U J. Salmon. Sterility and reproduction: Diagnostic technique and treatment of the sterile couple, by F A. Simmons. [illegible] possibilities and management of threatened abortion, by E. D. [illegible] Colvin. Ectopic pregnancy by W D. Beacham. Hydatidiform mole and chorionepithelioma, by A. T Hertig. Infections and their treatment: The treatment of vulvovaginitis in children, by [illegible] Trichomonas vaginalis vaginitis, by S. J. Kleegman. The management of uterine abortion complicated by infection, by W [illegible] [illegible] Benign growths: Treatment of the fibroid uterus, by W T. [illegible] Malignant growths: Endometriosis, by W R. Dobson. [illegible]

Treatment of carcinoma of the ovary, by H. C. Taylor Jr. Adenocarcinoma of the uterus, by C. L. Randall. The present-day status of noninvasive cervical carcinoma, by R. W. Te Linde and G. A. Galvin. Cancer of the cervix—principles of radiation treatment, by A. N. Arneson. Radical hysterectomy for cancer of the cervix with bilateral pelvic lymphadenectomy (the so-called Wertheim operation) by J. V. Meigs. Radiotherapy in uterine cancer, by H. L. Kottmeier. The surgical problem of advanced pelvic cancer—partial and complete pelvic exenteration, by A. Brunschwig and V. K. Pierce. Carcinoma of the vulva, by L. Parsons. Supervoltage radiation in gynecology, by L. L. Robbins and M. D. Schulz. Cancer of the cervix in pregnancy, by A. B. Hunt and R. D. Mussey. Operative technique: Vaginal hysterectomy, by A. D. Campbell. The management of prolapse of the uterus and vagina, by L. E. Phaneuf. The Manchester-Fothergill operation, by T. L. Montgomery. Complete tear of the perineum, by R. P. Watson. The treatment of stress incontinence of urine, by C. D. Reed. Enterocele, by J. V. Meigs. Vaginal atresia and construction of the vagina, by L. R. Wharton. Preoperative and postoperative care. Anesthesia for gynecological procedures, by H. K. Beecher. Antibacterial therapy in gynecological surgery and pelvic infections, by C. Lyons. Surgical treatment of the pain of pelvic disease, by B. Selverstone and J. C. White. Commercial preparations of endocrine products used in gynecology, by P. H. Benedict. Index.

Note: (1131) The pattern of the first volume published in 1946 has been followed in volume 2 of this series. Again there are 30 short monographs, each of which has been written by a specialist who has made a "hobby" of the subject about which he writes. Most of the monographs are therefore summaries of the current status of the topic rather than reviews of progress during the period of arbitrary length. Short lists of literature references accompany many of the papers, but no author has attempted a comprehensive bibliography. The series is addressed to graduate medical practitioners. The editors are members of the faculty of Harvard Medical School.

MOLOY, HOWARD CARMAN

Clinical and roentgenologic evaluation of the pelvis in obstetrics. Philadelphia W B Saunders Company 1951 119 p. illus. 22 cm. (American monograph series) $3.00 1332

Contents: General morphology of the pelvis. Clinical examination of the pelvis. The fetus. The mechanism of labor. Forceps operations. Breech delivery. Version and breech extraction. Roentgenologic technic. The roentgenological report. Methods for quantitative estimation of cephalopelvic disproportion. Summary. Problems for future investigation. Bibliography.

Note: The accumulated knowledge of pelvic types and variations and of their significance in obstetrics is compactly but clearly presented in this monograph addressed both to medical college students and to practicing obstetricians. The four classical types of pelves and intermediate variations are described, and this basic material is then related to practical techniques in pre-delivery examinations and to the use of forceps in delivery. In the final section the degree of inlet disproportion is related to methods of delivery found necessary in a series of 163 cases.

NATIONAL COMMITTEE ON MATERNAL HEALTH

Menstruation and its disorders. Proceedings of the Conference. Edited by Earl T Engle. Springfield, Illinois Charles C Thomas, 1950 358 p illus. 24 cm. $6.50 1333

Contents: Studies on the effects of steroid sex hormones on alkaline phosphatase in the endometrium, by W. B. Atkinson. The chemical histology of the human uterine cervix with supplementary notes on the endometrium, by G. B. Wislocki and others. Methods of study for tissue lipase, by G. Gomori. Enzymes in the ovarian tissues of rats, by R. K. Meyer and W. H. McShan. Abortive menses and associated endometria, by A. T. Hertig and J. Rock. The histophysiology of the human endometrium, by H. Okkels. The relation of blood flow to endometrial growth and the inception of menstruation, by J. E. Markee. Menstrual toxin—experimental studies, by O. W. Smith. Menstrual toxin—clinical significance, by G. V. S. Smith. Humoral factors related to peripheral vascular homeostasis, by E. Shorr and B. W. Zweifach. Endometrial pathology of functional bleeding, by R. W. TeLinde. The atypical secretory phase, by C. L. Buxton. The physiology and pharmacology of the myometrium, by R. A. Woodbury. Summary of proceedings, by J. Rock. List of members of the conference on menstruation.

Note: A collection of original papers, most of which present information based on recent investigations and not published hitherto. Excerpts from the discussions at the conference are included for some of the papers, and literature references are appended to most of them.

NOVAK, EMIL

Gynecologic and obstetric pathology with clinical & endocrine relations. Third edition. With 630 illustrations, 19 in color Philadelphia W B Saunders Company 1952 595 p illus. (part col d) 26 cm. $10.00 1334

Contents (abridged): The endocrinology of the menstrual cycle and pregnancy. Diseases of the vulva. Diseases of the vagina. Benign lesions of the cervix, cervicitis, cervical erosion and cervical polyps. Carcinoma of the cervix. Histology of the endometrium. Hyperplasia of the endometrium. Endometritis, endometrial polyps, myometritis. Myoma and other benign tumors of uterus. Adenomyosis (adenomyoma) uteri. Sarcoma of the uterus. Carcinoma of the endometrium. Salpingitis. Tumors of the tube, parovarium, and uterine ligaments. Inflammatory diseases of the ovary. Non-neoplastic cysts of ovary. Cystadenomas of ovary. Primary carcinoma of the ovary. Metastatic ovarian carcinoma. Brenner tumors of ovary. Dysgerminoma of the ovary. Arrhenoblastoma of the ovary. Adrenal tumors of ovary; masculinovoblastoma, hilus cell tumor (masculinizing tumors). Ectopic pregnancy. Pelvic endometriosis. Hydatidiform mole and chorionepithelioma malignum. Abnormalities and diseases of the placenta and appendages (other than hydatidiform mole and chorionepithelioma) by L. M. Hellman. Common breast lesions of gynecologic interest. Index.

Note: (1161) A comprehensive textbook designed for medical students, practitioners, pathologists, and specialists. The subject is covered in terms of all the important features, such as gross and microscopic characteristics, malignancy and histogenesis of neoplasms, and histology of the female genital organs. Special attention is given to the correlation of pathology with clinical practice, and to endocrinologic aspects. The third edition has been extensively revised, and the book now includes material on many uncommon lesions not discussed in previous editions. About 90 illustrations have been added. The chapter on common breast lesions of gynecologic interest has been added. References to recent literature have been incorporated in some of the bibliographic lists.

NOVAK, EMIL, AND EDMUND R. NOVAK

Textbook of gynecology Fourth edition. Baltimore The Williams & Wilkins Company 1952 800 p. illus. 24 cm. $9.00 1335

Contents (abridged): Embryology of the female generative organs. The gynecological history and examination. Physiology and endocrinology of menstruation. Cyclical histology of the genital tract. Clinical features of menstruation. Congenital anomalies of the female generative organs. Diseases of the vulva. Diseases of the vagina. Cervicitis and cervical polyp. Carcinoma of the cervix. Genital lacerations, relaxations and fistulae. Displacements of the uterus. Myoma of the uterus. Adenocarcinoma of the corpus uteri. Sarcoma of the uterus. Acute pelvic inflammatory disease. Tuberculosis of female generative organs. *Malignant tumors of the ovary.* Tumors of the tube, parovarium, and uterine ligaments. Endometriosis. Leukorrhea. Problems of sex life. General principles of gynecological organotherapy. The management of the menopause. Amenorrhea and hypomenorrhea. Dysmenorrhea. Sterility. Pregnancy conditions in gynecological practice. Common disorders of the female urinary organs, by H. S. Everett. Index.

Note: (1161?) A standard American work in which diagnosis and treatment are emphasized but in which there is also much information on endocrinology and other biological aspects of gynecology. The book is used both by undergraduate students in medical colleges and graduate practitioners. The present edition is coauthored by the author's son and associate in Johns Hopkins Medical School. The revisions are numerous but not so extensive as to affect the plan of the book. The text has been amended and rewritten in various parts; 42 illustrations have been added, and recent literature has been included in the bibliographies.

PARMELEE, ARTHUR HAWLEY

Management of the newborn. Chicago The Year Book Publishers, Inc., 1952 358 p. illus. 21 cm. $7.00 1336

Contents: Introduction. The fetus. Birth and neonatal adjustments. Characteristics of the newborn. The premature infant. Care and management of the newborn. Disturbances directly due to birth

processes. Disturbances due to abnormal variations of physiologic peculiarities. Disturbances due to prenatal factors. Disturbances due to acquired infections and other postnatal hazards. Index.

Note. A readable short treatise designed mainly for general practitioners. It makes available to the nonspecialist many of the advances in knowledge that have been published in recent years in such books as Potter and Adair *Fetal and neonatal death*, 2nd edition, 1949 and Smith, *The physiology of the newborn infant* 1947 Also much material has been included from the author's own extensive experience at Cook County and Presbyterian Hospitals in Chicago. The diagnosis and treatment of disorders and unusual conditions are stressed. The chapters are supplemented by useful lists of references and there are 47 figures.

POTTER, EDITH LOUISE

Pathology of the fetus and the newborn. Chicago Year Book Publishers, Inc., 1952 574 p. illus. 27 cm. $19 00. 1337

Contents. Early development of fetus and placenta. Rate of intrauterine growth. Chorionic vesicle and placenta. Abortion. Causes of fetal and infant death. Postmortem examination. Prematurity. Anoxia. Birth trauma. Infections. Malformations. Tumors. Multiple pregnancies and conjoined twins. Heart and blood vessels. Lungs and trachea. Thymus and glands of internal secretion. Mouth, esophagus, stomach and intestine. Diaphragmatic and abdominal hernia. Liver and gallbladder. Pancreas. Spleen. Kidneys, ureters, urinary bladder and urethra. Sex organs, gonads and mammary glands. Central nervous system. Skeleton. Skeletal muscles and joints. Skin. Blood. Index.

Note: A notable contribution to the knowledge of abnormalities, physiological disorders, and certain diseases of infants from time of conception to about one year of age. A considerable part of the material pertains to conditions that result in prenatal death or death soon after delivery The book is based on an intensive study of many thousands of autopsies performed at Chicago hospitals, particularly the Chicago Lying-in Hospital where the author holds the position of Pathologist. There are 601 figures nearly all of which are reproductions of photographs. Each of the chapters is accompanied by a list of references.

POTTER, EDITH LOUISE, AND FRED L. ADAIR

Fetal and neonatal death a survey of the incidence, etiology and anatomic manifestations of the conditions producing death of the fetus in utero and the infant in the early days of life. Second edition. Chicago The University of Chicago Press, 1949 173 p illus. 22 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $3 75 1338

Contents The normal fetus and infant. Postmortem examination. Survey of the principal causes of fetal and neonatal death. Special pathology Statistical data pertaining to births, maternal deaths, infant deaths, and stillbirths Index

Note. (1571) A compact handbook on the nature, importance, and identification of the principal causes of death of human infants before birth or in the days immediately following birth. Normal anatomy and standards are first covered, then the authors describe techniques of the postmortem examination, outline the principal causes of death, cover the pathology in some detail, and finally summarize the statistical data of the fetal and infant deaths in the United States of America. Literature references are included. The first edition was published in 1937 For this edition the book was extensively revised especially in the bibliographies and statistical data. Material was added on topics such as the effects of rubella and other virus infections of the mother during the first few months of pregnancy

REICH, WALTER J., AND MITCHELL J NECHTOW

Practical gynecology With 187 illustrations including 55 subjects in color Philadelphia J B Lippincott Company 1950 illus. (part col d) 449 p. 24 cm. $10 00 1339

Contents: Psychosomatics of gynecology Practical approach to gynecologic diagnosis. Biopsy and the early detection of cancer. Laboratory findings in gynecology Reproductive endocrinology Menstruation. Disturbances of menstrual function. Anomalies and malpositions of the female genitalia. Inflammatory lesions. Infections. Traumatic lesions. Neoplasms. Common gynecological complaints. Genital fistulas. Technics and apparatus. Low fertility and sterility Premarital examination and counsel. Index.

Note. Although limited mainly to procedures which can be carried out in the general practitioner's office, this modern manual covers a wide range of gynecologic disorders and related matters. Both medical and minor surgical treatments are included. There is more than the usual emphasis on diagnostic techniques and on psychosomatic aspects, but most of the space is devoted to clear, explicit descriptions of techniques. The book is based on extensive experience in the outpatient clinics of Cook County Hospital in Chicago and on teaching the subject in the Cook County Graduate School of Medicine.

REYNOLDS SAMUEL ROBERT MEANS

Physiological bases of gynecology and obstetrics. Springfield, Ill. Charles C Thomas, 1952 153 p 23 cm. (American lecture series. Publication no. 128 A monograph in American lectures in gynecology and obstetrics, edited by E C. Hamblen) $5.50. 1340

Contents. Problems in uterine physiology and their interrelations. Contractility of the human uterus and its physiological basis. The period of cervical dilatation. Abnormal labor and incoordinate uterine action. The physiological basis of menstruation. Somatic vascular actions of steroid hormones. The ovarian vasculature and ovarian function. The regulation of ovular activity in the ovary. The endocrine effects of hysterectomy The physiological effects of uterine distention. Uterine growth during pregnancy Uterine circulation during pregnancy Fetal maturity at birth. Ovarian function and uterine gradients. Physiological conditions in the uterus at the onset of labor. Supplementary reading list. Index.

Note: This book may be used as a supplement to the author's *Physiology of the uterus*, 2nd ed. (see number 812) or as a quite separate work. It is a concise review of advances made since about 1948, together with selected background information. As to the origin of the material the author has stated: "The lectures contained in this volume are part of a larger course given on the postgraduate level for physicians at the Facultad de Medicina de Montevideo.

ROMMER, JACK JAY

Sterility—its cause and its treatment. Springfield Illinois Charles C Thomas, 1952. 424 p illus. (part col d) 26 cm. $12.50. 1341

Contents: Part I, The infertile female: Historical background to sterility Physiology of coitus, orgasm, libido and fertilization. Anatomy and embryology Psychic trauma and fertility Causes of sterility—a summary and a check-list. Other factors associated with sterility Fertility in relation to the size and structure of the sex organs. Gynecologic pathology and sterility The history and physical examination of sterile patients. Means of investigation of the infertile female. Sterility and the endocrines. Review of the female sex hormones. Menstruation and the menstrual cycle. The medical treatment of infertility Office treatment of gynecologic conditions. Hormonal and other special means for treating sterility. Surgery in the treatment of sterility Part II, The infertile male: The infertile male. Male endocrinology The history and examination of the male. Therapy of male infertility Index.

Note A comprehensive treatise into which the author has gathered information on such facets of the problem as the relation of emotional status to fertility in addition to a full coverage of anatomical, physiological, and clinical aspects. Diagnostic and therapeutic techniques are well described, and abundant literature references are supplied. There are 181 figures.

SNOW WILLIAM

Roentgenology in obstetrics and gynecology Second edition. With 273 illustrations. Springfield Charles C Thomas, 1952 363 p. illus. 24 cm. $10.50. 1342

Contents: General discussion of Roentgen study of pregnancy. The Technic of Roentgen study of pregnancy Pelvic architecture. The Roentgen study of pregnancy. Some factors which influence occiput presentations and posterior presentations. Breech presentation, engagement, and delivery Atypical presentations. The fetus. Roentgen study of the soft parts of pregnancy. Placenta previa. Premature placental separation. Extra-uterine pregnancy.

The size of the uterus in pregnancy Utero-salpingography. The internal genitalia and the urinary tract. The internal genitalia and the gastro-intestinal tract. Growths in the pelvis, review Roentgen study in bleeding with pregnancy Recovery of tissue from X radiation. Index.

Note: Obstetric and gynecologic roentgenology is special field attended by difficulties in interpretation because the soft tissues under study produce roentgenograms of low contrast. This book by radiologist who has had extensive experience in this specialty is an introductory but comprehensive text. As might be expected, most of the illustrations are reproductions of roentgenograms. The illustrations are carefully and specifically interpreted in the text. In numerous instances where it was not possible to make clearly contrasted reproduction, the roentgenogram is supplemented by drawing.

TAYLOR, E STEWART

Manual of gynecology With 70 illustrations. Philadelphia Lea & Febiger 1952 204 p illus. 24 cm. $4 50 1343

Contents: History taking and physical examination. Anatomy and embryology of the female generative organs. Physiology and endocrinology of the female generative tract. Cyclic histology of the female generative tract and menstruation. Congenital anomalies of the female genital tract. Diseases of the external genitalia. Diseases of the vagina. Benign conditions of the cervix. Malignant diseases of the cervix. Benign conditions of the uterus. Malignant diseases of the uterus. The use of biopsy and the vaginal smear in gynecology by N P Isbell. Acute pelvic inflammatory disease. Pelvic abscess and chronic inflammatory disease. Benign tumors of the ovary Malignant and potentially malignant tumors of the ovary and tube. Endometriosis. Ectopic pregnancy Hydatidiform mole and chorionepithelioma. Abortion. Genital lacerations, relaxations, fistulas, and displacements. Management of menstrual excesses. Endocrinopathic primary and secondary amenorrhea and hypomenorrhea. The menopause, dysmenorrhea, frigidity and dyspareunia. Infertility The use of hormone preparations in gynecology and orientation as to proprietary hormone products. Index.

Note The essentials of contemporary gynecology are covered very concisely in this work, which is addressed primarily to medical college students and secondarily to general practitioners. The straightforward but abbreviated text is supplemented by brief references to the readily available recent literature. The author is head of the Department of Obstetrics and Gynecology in the School of Medicine of the University of Colorado.

YEAR BOOK OF OBSTETRICS AND GYNECOLOGY

The 1952 year book *of* obstetrics *and* gynecology (July 1951–June, 1952) Edited by J P Greenhill. Chicago The Year Book Publishers Inc., 1952 575 p. illus. 20 cm. $5.50 1344

Contents: Obstetrics: Pregnancy Labor. Puerperium. The newborn. Gynecology General principles. Diagnosis. Infertility. Operative technic. Infections. Benign tumors and endometriosis. Special ovarian tumors. Malignant tumors. Menstrual disorders. Endocrinology Index. Index to authors.

Note: (1171) An annual edited and organized similarly to the other books in the same series. Chapters consist of fairly long abstracts selected from the world medical literature. In many instances the abstract is supplemented by comment written by the editor. There are 90 figures in the present issue.

SURGERY

GENERAL

AMERICAN COLLEGE OF SURGEONS

Surgical forum. Proceedings of the forum sessions thirty-seventh clinical congress of the American College of Surgeons San Francisco California, November 1951 Surgical forum committee Owen H. Wangensteen and others. Philadelphia W B Saunders Company 1952 667 p illus. 25 cm. $10 00 1345

Contents (abridged) The lungs and esophagus. Evaluation of chest suction with an artificial thorax, by E. E. Eaves, Jr. A method for the production of reversible endobronchial obstruction in dogs, by C. H. McCroskey and others. The effects of hemorrhage and intravenous and intra-arterial infusion upon respiration and the volume of blood in the lungs, by R. Wilson and A. F. Reid. Endobronchial Geiger counter studies of intrathoracic malignancies utilizing radioactive phosphorus, by K. P. Klassen and others. The effect of streptokinase and streptodornase on wound healing in pulmonary resection, by O. Creech and others. The stomach and spleen. An experimental study of the effect of banthine and atropine upon gastric secretion and peptic ulceration, by H. N. Harkins and L. R. Sauvage. The effect of radiation from radioactive iodine on gastric secretion, by R. A. Ross(?) and others. The use of ACTH in hypersplenism, by P. C. Kiernan(?) and O. E. Hunter(?) Jr. The intestines. The experimental use of hyaluronidase in the prevention of intestinal adhesions, by J. E. Connolly and V. Richards. Influence of size of meals and frequency of feeding on motility of the small intestine, by P. H. Schrecker(?) and others. Experimental studies on closed colon loops, by A. W. Ulin and others. Suture strength and healing strength of end-to-end intestinal anastomoses, by N. M. Fallows(?) and others. The liver and portal system. Studies on the hepatic circulation in the *Macaca mulatta* monkey and in man, by C. G. Child and others. Studies of hepatic response to changes in blood supply, by W. E. Burnett and others. Reciprocal hydrostatic relationship between the portal and caval systems—its application to the problem of ascites, by H. Leffman(?) and others. The effect of diversion of bile to various parts of the intestines, by C. Blake(?). The role of concentration of bile in toxicity, by J. R. Johnson. The heart. A physiologic evaluation of the surgical treatment of mitral stenosis, by H. Hellgren(?) and others. A cinematographic study of the function of the mitral valve in situ, by A. Kantrowitz and others. Homologous heart grafts—transplantation of the heart in dogs, by E. Marcus and others. The maintenance of circulation by cross-transfusion during experimental operations on the open heart, by E. Kerr(?) and others. Practical exposure to permit experimental surgical procedures within the left heart, by O. H. A. Cheves(?), Jr. Blood vascular system and blood flow. Long femoral and ilio-femoral grafts, by J. Austin(?) and others. Early results of experimental studies of the action of high intensity electrons on aortic homografts, by K. K. L. Hui(?) and others. Arterial ligation—should the vein be ligated too? by H. Swan and others. The retardation of clotting of whole blood on contact with stainless steel, by C. W. Walter and others. Dural sheet studies in relation to radical operations of the neck, by A. J. Aalbyn(?) and others. The influence of ACTH on venous thrombosis, by K. O. Nelson(?). Experience with parenterally circulating fibrinolytic enzyme in surgical diseases, by R. R. Margulis and J. P. Pratt. The urogenital tract: The effect of nitrofurans(?) on tumors of the human testis and prostate gland, by C. E. Friedgood and C. B. Ripstein. Mode of development of electrolyte imbalance in ureterosigmoid anastomoses, by J. Lapides. Extraperitoneal pneumography—an experimental study, by D. R. Smith and others. Neurophysiology and neurosurgery. The absorption of the cerebrospinal fluid—studies with radioactive phosphorus (P^{32}), by L. Mann(?) and J. E. Adams. The effect of cortisone and ACTH on scarring in the brain and in peripheral nerves, by E. Weidner(?) and others. Air emboli complicating operations on the brain and spinal cord, and measures to prevent them, by R. Jasper(?). Treatment of hydrocephalus by direct shunt from ventricle to jugular vein, by F. E. Nulsen and E. B. Spitz. Orthopedics: Human electromyogram, by B. Libet and B. Feinstein. Experimental study of the fate of bone grafts, by C. Campbell and others. A preliminary report on studies of basic calcium phosphate in bone replacement, by R. D. Ray and A. A. Ward, Jr. Experimental increase in leg length—a preliminary report, by C. L. Wilson. Repair and regeneration. An experimental method for the study of skin homografts, by P. Randall and others. The effects of ACTH and cortisone on experimental skin homografts, by P. Randall and others. The effect of cortisone on wound healing, blood regeneration and growth, by E. Haley(?) and J. F. Lam(?). Some observations on connective tissue growth and tissue culture in relation to keloid formation—a preliminary report, by D. W. Robinson and others. Evaluation of the exposure method in the treatment of burns, by E. J. Pulaski and others. The prevention of adhesions in the chest and the pericardium by cortisone, by S. R. Schiebing(?) and others. The topical use of streptokinase-streptodornase in infected and necrotic lesions, by S. L. Tunnicliffe(?) and others. The endocrines: Studies on the control of salt-regulating adrenal hormone, by B. Zimmermann and M. M. Schoenbaum(?). Effect of autonomic blocking drugs on experimental pancreatitis, by J. D. Palmer. Physiological studies on the external pancreatic secretion in man, by J. M. Howard and others. Body fluid and electrolytes, blood volume and shock: The turnover rate of body water in the human, by H. F. Haley and others. The use of radioactive iodinated human serum albumin (RIHSA) for clinical total blood volume studies, by J. R. Aust and others. A new approach to fluid and electrolyte therapy, by A. Horwitz and others. The absorption and excretion of [illegible] agents in hemorrhagic shock, by T. M. Cloud and others. Comparative effectiveness of certain colloidal substances in maintaining plasma volume after blood loss, by R. C. Kratoon(?) and others. Index.

Note: Original papers bearing on recent experimental investigations, on advances in the knowledge of chemistry or newly developed surgical techniques, etc., prepared for the congress named in the volume title have been collected in this book. Altogether 114 papers are reprinted in full and many others are represented by abstracts. The average length of an individual paper is about five and one-half pages, but in this small space most authors have succeeded in giving enough information to enable a reader of the volume to judge whether the process or technique under discussion is of value to him. Most of the papers are supplemented by literature references and illustrations.

ANSON BARRY JOSEPH AND WALTER G. MADDOCK

Callander's surgical anatomy Third edition with 929 illustrations. Philadelphia W B Saunders Company 1952 1074 p. illus. 26 cm. $14 00. 1346

Contents (abridged) Part I, The head. Part II, The neck. Part III, The thorax. Part IV Abdomen. Part The pelvis. Part VI, Male perineum and external genitalia. Part VII, Female perineum and external genitalia. Part VIII, The vertebral column, vertebral canal, and spinal cord. Part IX, Upper extremity. Part X, Lower extremity. Index.

Note (2391) One of the standard American texts for medical college students preparing for surgery. The primary emphasis is on anatomy but the basic material is carefully related to surgical techniques and to related topics such as anesthesia. The previous edition appeared in 1939 and was the work of Dr. C. L. Callander. In this edition the work is substantially enlarged and there are many new illustrations. The authors are members of the faculty of Northwestern University Medical School.

BLAND JOHN H.

The clinical use of fluid and electrolyte. Illustrated. Philadelphia W B Saunders Company 1952 259 p. illus. 28 cm. $6.50. 1347

Contents: Basic physiologic considerations of body fluid and electrolyte. "Pure" and mixed water and sodium chloride depletion. Normal and [illegible]. Water and electrolyte in congestive heart failure. [illegible] Water and electrolyte in patients [illegible] abnormal potassium metabolism. [illegible] patients. Fluid and electrolyte in the aged and [illegible]. Fluid and electrolyte in renal disease. Fluids in surgical patients. [illegible]

Fluid and electrolyte in diabetes mellitus. Fluid and electrolyte in adrenal cortical insufficiency. Adverse effects of heat on body water and electrolyte. ACTH and cortisone—physiologic effects in body fluid and electrolyte. Behavior of body water and electrolyte in shock, burns, crush and blast injury, roentgen irradiation and exposure to cold and other stress.

Note: Current knowledge of the interrelationships of body fluid and electrolyte as in this work summarized and interpreted for the benefit of general practitioners of medicine, clinicians, and those who are concerned with the pre- and post-operative care of surgical patients. The basic knowledge and the experimental and clinical observations on which it is based are adequately covered, but the emphasis is on the aspects that have practical applications in diagnosis and treatment. Statements in the text are referenced to fuller discussions in the literature. However, explicit information is given on diets, nutrition, drugs and dosages in the book itself. The author is member of the faculty of the College of Medicine of the University of Vermont.

CHRISTOPHER, FREDERICK

A textbook of surgery by American authors. Fifth edition. 1465 illustrations on 742 figures. Philadelphia W B Saunders Company 1950. 1550 p. illus. 27 cm. $13 50 1348

Contents (abridged) Inflammation and wound healing. Shock; acidosis and alkalosis; water and electrolyte balance. Bacteriology and chemotherapy. Bacterial, fungus and virus diseases. Thermal, chemical, electrical and irradiation injuries. Muscles, ligaments and bursae. Tendons, tendon sheaths and fascial spaces. Infections and tumors of bones and joints. Fractures. Dislocations. Deformities; paralytic disorders; derangements of bones and joints. Amputations and prostheses. The nervous system. The endocrine system. The vascular system. The lymphatic system. The skin and adjacent tissues. The head. The neck. The breast. The thoracic wall, pleura and lungs. The heart and pericardium. The mediastinum, including the esophagus. The abdominal wall. The peritoneum. The stomach and duodenum. The small and large intestines. Anal canal and rectum. The liver and biliary system. The pancreas. Hernia. The genitourinary tract. Gynecology. Military surgery. Plastic surgery. Aseptic surgical technic. Preoperative and postoperative care. Roentgenology. Anesthesia. Index.

Note. (1175*) A standard and widely used medical college textbook. The chapters have been written by eminent surgeons and teachers of surgery and each man has covered a branch of surgery in which he is recognized as an expert. In the present edition there are 230 chapters or subsections written by 187 authors. Chapters are devoted to such specific topics as surgical treatment for congenital obstructions of the bile ducts. In general for each disorder covered the etiology, pathology, symptoms, diagnosis and medical and surgical treatments are concisely described. In numerous instances medical treatment is emphasized. Not all surgical techniques are covered but several leading ones are often described for a specific disorder. The fourth edition was published in 1945. Approximately 30 new sections have been added in this edition and about a dozen sections carried over have been extensively revised. Recent literature has been added to the lists of references.

COLE, WARREN HENRY editor

Operative technic. Introduction by Frank H. Lahey New York Appleton-Century Crofts, Inc., 1949 2 v illus. (part col d) 25 cm. Vol. I $18 00 Vol. II, $16 00 1349

Contents: Volume I, General surgery Wound healing and the care of wounds, by E. L. Howes. Hemorrhage and shock, by J. D. Stewart. Burns, by C. C. Lund and S. M. Levenson. Preoperative and postoperative care, by R. Elman. Amputations, by F. M. Mc Keever. The face, mouth and jaws, by J. B. Brown and F. McDowell. The esophagus, by W. E. Adams. Abdominal incisions, by F. A. Coller and E. F. Maclean. Surgery of stomach and duodenum, by W. Walters. Gastric vagotomy in the treatment of peptic ulcer, by L. R. Dragstedt. Surgery of the small intestine, by C. Dennis. The pancreas and adrenal, by A. Brunschwig. The gallbladder and bile ducts, by W. H. Cole. The liver and subphrenic space, by A. Ochsner and M. E. DeBakey. The colon and appendix, by R. R. Graham and J. Gray. The lower part of the sigmoid, the rectum and anus, by C. F. Dixon and A. L. Lichtman. The lymphatic system, by R. K. Gilchrist. Splenectomy, by W. H. Cole. The surgery of portal hypertension, by H. A. Wenzel. Abdominal hernias, by E. F. Lehman and C. E. Davis, Jr. The breast, by T. G. Orr. The thyroid and parathyroid glands, by J. de J. Pemberton and B. M. Black. The muscles, fasciae, tendons and bursae, by H. L. Mc Laughlin. Acute vascular injuries, by M. E. DeBakey. Traumatic aneurysms and arteriovenous fistula, by D. Elkin. Varicose veins, by M. E. DeBakey. Surgery of the hand and its tendons, by H. S. Allen and S. L. Koch. The skin and subcutaneous tissue, by F. Glenn. Index. Volume II, Specialty surgery. Introduction, by A. O. Whipple. Plastic surgery, by F. W. Grosby. Thoracic wall, pleural cavity, lungs and diaphragmatic hernia, by J. M. Dorsey. The heart and mediastinum, by C. S. Beck. Fractures, by J. A. Key. Hematogenous osteomyelitis, by F. Dickson. Deformities and neoplasms of the bone, by C. E. Badgley. Surgical approaches to the joints, by L. C. Abbott and others. The orthopedic surgical treatment of spastic paralysis and anterior poliomyelitis, by F. A. Chandler. Scalp, cranium and brain, by H. A. Brown and H. C. Naffziger. The spinal cord, by C. Pilcher and W. F. Meacham. Surgery of the intracranial nerves, by F. C. Grant. Peripheral nerves, by R. G. Spurling. The autonomic nervous system, by R. H. Smithwick. Gynecological surgery, by J. V. Meigs and L. Parsons. The male genito-urinary system, by D. K. Rose. Index.

Note: A broad presentation edited by the head of the Department of Surgery of the College of Medicine of the University of Illinois and written by eminent surgeons of the United States of America and Canada. Each of the papers or chapters is essentially a short monograph in which most of the space is given to explicit descriptions of techniques but which contains background information on anatomy and physiology, usually some information on the history of the operation and also literature references. Together, the two books contain over 900 figures of which a few are reproduced in color.

COLE WARREN HENRY AND ROBERT ELMAN

Textbook of general surgery Foreword by Evarts A. Graham. Sixth edition. New York Appleton-Century-Crofts, Inc., 1952 1154 p. illus. 24 cm. $12.50 1350

Contents (abridged) Inflammation and repair. Acute surgical infections. Ulcer, gangrene, sinus, fistula. Surgical methods. Anesthesia. Wounds. Amputations. Surgery in diabetes. Shock and hemorrhage. Thermal, chemical and electrical trauma. Fractures, dislocations and sprains. Blood vessels. The lymphatic system. The nervous system. Liver, gallbladder, pancreas and spleen. The alimentary tract. The peritoneal cavity. Hernia. Surgical diseases of the chest, by E. A. Graham and T. H. Burford. The endocrine glands. Gynecology. Military surgery, by F. B. Berry. Index of authors. Index of subjects.

Note: (1176*) A standard textbook for medical college courses. It covers the physiological and pathological bases of surgery and describes the main surgical diseases with emphasis on their etiology and clinical manifestations. The treatment of each disease is also outlined and non surgical therapies are considered along with surgical ones. Numbers inserted in the text lead the reader to citations of related literature where fuller discussions of particular therapies can be found. The fifth edition was published in 1948. Important though moderate revisions and additions were made in preparing this edition. The revised and added material relates to such fields as thoracic surgery, cardiac surgery, gastrointestinal surgery and vascular surgery.

CUTLER, ELLIOTT CARR, AND ROBERT M. ZOLLINGER

Atlas of surgical operations. Second edition. Illustrated by Mildred B Codding. New York The Macmillan Company 1949 225 p. illus. 38 cm. $12.00 1351

Contents (abridged) A. General considerations. Surgical technic. Anesthesia. Preoperative and postoperative care. B. Surgical operations. Neck. Chest. Abdominal wall. Gastro-intestinal system. Pilonidal sinus. Spleen. Gynecologic system. Extremities. Genito-urinary system. Central nervous system.

Note: (1181) In this work the common surgical operations are described by means of a brief text and fairly detailed drawings arranged in sequence for each operation. The book is made up so that the drawings are on right-hand pages and the explanatory text is on facing left-hand pages. It is not a work for specialists but it is a useful one for advanced medical students, young surgeons, and general practitioners doing occasional surgery. In the present edition 30 procedures have been added. New illustrations are of course included for these and in addition many of the illustrations that were in the original edition have been redrawn.

some diagnostic problems, by R. A. Cooke. Surgical diagnosis in cancer of the head and neck, by H. P. Royster. Surgical disorders of the thyroid gland—the complete diagnosis, by T. A. Shallow and others. The diagnosis of carcinoma of the larynx, by L. H. Clerf and others. The diagnosis of benign lesions of the esophagus, by K. E. Fry and F. J. Putney. The diagnosis of lung cancer, by F. F. Allbritten, Jr., and others. The diagnosis of mediastinal tumors, by W. E. Burnett and others. Surgical diagnosis of genito-urinary conditions, by T. R. Fetter and W. C. Drake. Surgical diagnostic problems in obstetrics, by T. L. Montgomery. Acute abdominal pain of female genital origin, by P. O. Klingensmith. Adequate measures in the diagnosis of uterine cancer—with regard to management and treatment, by L. C. Scheffey and W. R. Lang. The Roentgen diagnosis of neoplasms of bone, by R. S. Bromer. Accurate diagnosis in lesions of the shoulder and knee joint, by A. F. DePalma. Ruptured intervertebral disks, by F. C. Grant and F. K. Nelson. The recognition of deficient blood volume in surgical patients, by J. Y. Templeton, III, and R. K. Finley, Jr. Clinics on other subjects. The management of polyps of the colon and rectum, by H. R. Hawthorne. Surgery of the mitral valve. Index to volumes 30, 31 and 32.

Note. (1603a) *Surgical clinics of North America* is published six times a year and is continuously paged through the volume as a periodical. However each issue is devoted to a symposium on a topic of current interest, and the issues are available bound in cloth as well as in paper. The December 1952 issue contains the papers listed above. The authors are teachers and practitioners of surgery and the volume is intended for graduate surgeons.

THOREK, MAX

Modern surgical technic. With a foreword by Fred W. Rankin. Second edition. 2,590 illustrations including 57 full color plates. Philadelphia, J. B. Lippincott Company, 1952. 4 v. and index. illus. (part col'd) 26 cm. $79.00 1362

Contents (abridged): Volume I. Part I, General operative considerations: The surgeon and his art. Selection and management of "poor risk" patients. Postoperative considerations. Anesthesia, by C. J. Betlach. Blood transfusion. Electrosurgery. Part II, Surgery of head and neck and principles of plastic surgery: Surgery of the orbit and eye, by J. Igersheimer. Surgery of the ears and adjacent structures, by W. L. Gatewood. Surgery of the face. Surgery of the jaws. Surgery of the sinuses and tonsils, by W. L. Gatewood. Surgery of the neck and the cervical endocrine glands. Principles of plastic surgery and skin grafting. Volume II. Part III, Surgery of the nervous and vascular systems: Surgery of the central nervous system, by H. C. Voris. Surgery of the arteries, by R. W. McNealy. Surgery of the veins, by H. O. McPheeters. Part IV, Surgery of the chest, by R. Nissen. Part V, Surgery of bones and joints. Orthopedic surgery, by K. Eichelbaum and H. K. Turner. Fractures, dislocations and sprains, by J. J. Callahan. Volume III. Part VI, Surgery of the breast. Part VII, Surgery of the abdomen. Surgery of the stomach and the duodenum. Surgery of the intestines. Surgery of liver, gallbladder and biliary passages. Surgery of the pancreas. Surgery of the spleen. Volume IV. Part VIII, Hernias. Part IX, Gynecology and genito-urinary surgery. Index.

Note. (1604) A cyclopedic work of reference nature. The techniques described are those in fairly wide, current use. Each technique included is covered explicitly in considerable detail. The textual descriptions are supplemented by illustrations and many of these are arranged in step-by-step series. Short lists of selected references are included in most chapters. The book is well suited to use as a reference work in the offices of general medical practitioners and general surgeons. It is useful also to surgeons practicing specialties who are sometimes called upon to perform operations outside their own fields. The first edition was published in 1938 in three volumes and was reissued in 1942 in a one-volume edition for the use of medical officers of the Armed Forces. In this second edition more than 400 pages of text have been added and the number of illustrations has also been substantially increased.

THORNDIKE, AUGUSTUS

A manual of bandaging, strapping and splinting. Second edition, with 119 illustrations. Philadelphia, Lea & Febiger, 1950. 148 p. illus. 19 cm. $2.00 1363

Contents: The dry sterile dressing for clean wounds. Septic wound dressing. Sprains, strains, and contusions. Dislocations and emergency splinting. Transportation of fractures. The use of plaster of Paris and similar bandages in splinting. Bibliography. Index.

Note. (1606) A brief, illustrated manual addressed primarily to medical students, student nurses, and hospital orderlies. The second edition has been revised to incorporate the changes in practice brought about as a result of experience and research stimulated by World War II, including, among other new forms and types of useful bandaging materials, the plastic impregnated bandage used as a substitute for plaster of Paris bandage.

YEAR BOOK OF GENERAL SURGERY

The 1952 year book of general surgery (June, 1951–May 1952). Edited by Evarts A. Graham. With a section on anesthesia edited by Stuart C. Cullen. Chicago, The Year Book Publishers, Inc., 1952. 670 p. illus. 20 cm. $6.00. 1364

Contents: Introduction. General topics. Anesthesia. Shock. Water and electrolytes. Nutrition. Chemotherapy—antibiotics. Wounds, wound infection and burns. Neoplasms. Nervous system. Face, buccal cavity and neck. The thyroid and parathyroid. Breast. Mediastinum and thorax. Lung. Heart and major blood vessels. Peripheral arteries. Sympathectomy. Peripheral veins—thrombophlebitis. Esophagus. Abdomen—general. Hernia. Liver and spleen. Stomach and duodenum. Biliary tract. Pancreas. Small intestine. Vermiform appendix. Colon and rectum. Anus. Kidney. Adrenal gland. Extremities and spine. Anesthesia: Premedication. Inhalation anesthesia. Ventilation. Barbiturates. Muscle relaxants. Spinal anesthesia. Local anesthetics. Circulation. Miscellaneous. Index. Index to authors.

Note. Another volume in this useful series. Significant articles are selected from the medical literature of the world and are reduced to abstracts which average 500 words in length. These abstracts are classified under the various headings given in the contents above. They are not highly condensed summaries but are written in narrative fashion so that they can be read with ease. A reference to the original source is given and in numerous instances the abstract is supplemented by an evaluatory note written by the editor. There are 235 figures in the present issue.

ANESTHESIA

ADRIANI, JOHN

The pharmacology of anesthetic drugs; a syllabus for students and clinicians. Third edition, completely revised. Springfield, Illinois, Charles C Thomas, 1952. 179 p. illus. 28 cm. $9.50 1365

Contents: Effects of physical and chemical properties on pharmacological activity. Administration, absorption and elimination of anesthetic drugs. General systemic effects. Administration of anesthetic drugs. Gaseous agents. Volatile agents. Inorganic non volatile agents. Aliphatic non volatile agents. Barbiturates and other non volatile agents derived from urea. Opium alkaloids and synthetic analgesics. Local anesthetics. Non anesthetic drugs used in conjunction with anesthesia. Inorganic gases used in conjunction with anesthesia. Some clinical considerations. Glossary. References. Index.

Note. (2610) An illustrated digest of fundamental facts about the properties, actions, and techniques of administration of anesthetic drugs in current use. It is organized in chapters whose titles are given above. Within most of the chapters the drugs are taken up one by one. The history, preparation, properties, administration, uses, advantages, disadvantages, contraindications are all covered concisely. In addition, the physiological actions are summed up in diagrams based on the human figure. The book contains a number of auxiliary reference aids such as a glossary, tabulation of dosages, literature references, and a very detailed index. The second edition was published in 1942. For this edition the work was revised and expanded throughout and is now almost twice as long.

BURSTEIN, CHARLES L.

Fundamental considerations in anesthesia. New York, The Macmillan Company, 1950. 153 p. illus. 22 cm. $4.50. 1366

Contents: The autonomic nervous system. The respiratory pattern during general anesthesia. Respiratory disturbances: Apnea and carotid body reflexes. Hypercapnea, hypopnea, tachypnea, bradypnea, Cheyne-Stokes' respiration, bronchoconstriction, upper respiratory obstruction. Laryngeal spasm. Circulatory disturbances: Shock. Celiac plexus reflex. Carotid sinus reflex. During spinal anesthesia. Other than vagal. Cardiac arrhythmias. Parasympathetic reactions.

Vagal respiratory. Vagal cardiac. Gastrointestinal autonomic reactions. Pulmonary control. Index.

Note: A monograph for clinicians and teachers, describing and analyzing complications that may arise during surgery. It covers problems that occur during clinical anesthesia; considers the pharmacology, physiology, and physio-pathology involved in these problems; and indicates the proper treatment for various reactions. The author emphasizes the importance of a knowledge of basic physiology and pharmacology. Bibliographical references are printed at the end of each chapter.

CLEMENT, FREDERICK WALTER

Nitrous oxide-oxygen anesthesia. Third edition, thoroughly revised with 129 illustrations Philadelphia Lea & Febiger 1951. 369 p. illus. 24 cm. $6.50 1367

Contents (abridged): Part I, General considerations: Properties and manufacture of gases. Theory of nitrous oxide-oxygen anesthesia. Signs of nitrous oxide-oxygen anesthesia. Metabolism and premedication. Charting and shock. Classification of patients. Part II, The administration of N_2O–O_2 anesthesia: The gas apparatus. Rebreathing. Obstruction, airways and resuscitation. Nitrous oxide-oxygen and curare. Oxygen want—oxygen excess—cyanosis. Part III, Special techniques: Primary and secondary saturation. Pressure. Carbon dioxide absorption. Endotracheal anesthesia. Part IV Summary of N_2O–O_2 anesthesia. Advantages and disadvantages of N_2O for anesthesia. Comparison of nitrous oxide-oxygen with other gaseous anesthetics. Part V Dental anesthesia analgesia. Part VI, Some physical factors in the administration of gaseous anesthetics, by E. I. McKesson. Index.

Note: (1941) The standard treatise on this kind of anesthesia. The author in association with the late E. I. McKesson played a considerable part in its development. The first two editions of the book were largely limited to covering the McKesson-Clement technique; but in this considerably expanded edition the whole subject is covered, including the advances in the fundamental knowledge of anesthesia and the modifications in technique which have taken place in recent years. The book is of interest not only to anesthetists but also to surgeons and to dentists. Literature references are included.

COLLINS, VINCENT J

Principles and practice of anesthesiology 99 illustrations. Philadelphia Lea & Febiger 1952 528 p. illus. 24 cm. $10 00 1368

Contents (abridged): Section I, General considerations History and scope of anesthesiology Anesthetic equipment and its maintenance Positioning of patients. Preanesthetic preparation and premedication. Inhalation technics. Carbon dioxide absorption technic. Endotracheal technic Curare—an adjunct to anesthesia. Principles of spinal anesthesia. Intravenous anesthesia Rectal anesthesia Refrigeration anesthesia. Explosions and fire hazards. Respiration—transportation of physiologic gases Section II, Regional technics: Blocks of the head Blocks of cervical spinal nerves. Extremity blocks. Miscellaneous blocks. Section III, Pharmacologic considerations. Section IV, Complications Respiratory derangements Autonomic reflexes. Cardiac arrhythmias Complications of spinal anesthesia. Temperature regulation and heat problems. Postoperative complications. The management of patients in coma. Resuscitation. Shock. Section V Special considerations Pediatric anesthesia. Anesthesia in the aged. Anesthesia in abdominal surgery Anesthesia for thoracic surgery Anesthesia for head and neck surgery Management of the diabetic patient. Anesthetic management of the cardiac patient. Obstetrical analgesia and anesthesia. Section VI, Intravenous and inhalation therapy Index

Note: An inclusive work in which all phases of anesthesia are covered very compactly It is organized in 64 chapters, some of which are as short as six pages. However most chapters are supplemented by selected but fairly extensive lists of literature references. Information is included not only on all the established anesthetic drugs and techniques but also on the history of anesthesia, pertinent aspects of clinical medicine and of pharmacology, pre- and post-operative complications of anesthesia, blood transfusion, inhalation therapy etc. The book is suitable for use as a text in accelerated courses and as a reference book by graduate physicians. The author is Director of the Department of Anesthesiology of St. Vincent's Hospital, New York City

CULLEN STUART CHESTER

Anesthesia in general practice. Third edition. Chicago The Year Book Publishers, Inc. *1951 292* p. illus. *21* cm. (The general practice manuals) $4.50 1369

Contents: Use of depressant drugs. Airway Inhalation anesthesia—agents. Inhalation anesthesia—technics. Spinal analgesia. Regional, infiltration and topical analgesia. Signs of anesthesia. Choice of anesthetic agent and technic. Recognition and treatment of shock. Oxygen therapy Pre- and postanesthetic care of the patient. Explosion hazards. Appendix Anesthetic agents available for office use. Index.

Note: (1193) A short manual addressed to general practitioners and part-time anesthetists rather than to specialists. Although the chief anesthetic drugs are described, the emphasis is on basic matters and standard techniques. The second edition was published in 1948. In this edition the first chapter has been extensively revised and less prominent changes have been made at various points in the other chapters. The length of the book has been increased by about 30 pages.

GRAUBARD DAVID J , AND MILTON C. PETERSON

Clinical uses of intravenous procaine. Springfield Illinois Charles C Thomas 1950 104 p. illus. 22 cm. (American lecture series. Publication no 73 A monograph in American lectures in *anesthesiology edited by* John Adriani) $2.50 1370

Contents: Introduction. Chemistry and pharmacology Intravenous local anesthesia. Pruritus. Serum sickness and other states of sensitivity Analgesia in burns and postoperative pain. Acute arrhythmias during anesthesia. Pain in traumatic and inflammatory conditions. Acute anterior poliomyelitis. Other indications. Index to authors.

Note: Rather than a brief survey based on a selection of the pertinent literature, this work is a comprehensive review of its subject. The text is very concise; nevertheless the essential data in the source articles are stated. Some transcripts of case histories are included. The bibliographies appended to the chapters are international in scope. About 240 names appear in the author index, indicating the extensiveness of the literature coverage.

GUEDEL ARTHUR ERNEST

Inhalation anesthesia a fundamental guide. Second edition. New York The Macmillan Company 1951 143 p. illus. 22 cm. (Macmillan surgical monographs) $3 75 1371

Contents: Part I, Principles of inhalation anesthesia. Mechanism of inhalation anesthesia. Stages of anesthesia. Signs of anesthesia. Depth of anesthesia. The mechanism of various anesthetic requirements. Part II, Anesthetic accidents: Accidents due to changes in blood pressure during anesthesia. Ventricular fibrillation Central respiratory failure. Accidents due to peripheral respiratory interference Aspiration of debris. Miscellaneous accidents. Cyanosis. Anesthetic explosions. Selected references. Index.

Note: (2414) A concise, authoritative guide addressed to students and teachers in medical colleges, nurses, physicians and surgeons as well as to anesthetists Special attention has been given to describing the signs of anesthesia. The anesthetic requirements for various operations are stated explicitly The second part, which is devoted to anesthetic accidents, constitutes half of the book. Although a few cases are discussed, this part consists mainly of descriptions of techniques and precautions that guard against accidents.

WATERS RALPH MILTON editor

Chloroform a study after 100 years. Madison The University of Wisconsin Press 1951 138 p. illus. 22 cm. $2 75 1372

Contents: The effect of chloroform on hepatic function, by O. S. Orth and others. The effect of chloroform on renal function, by O. S. Orth and R. B. Cohen. The effect of chloroform on the cardiovascular system, by O. S. Orth and others. A clinical evaluation of chloroform, by M. A. Gillespie. Chloroform in blood and expired atmosphere, by L. E. Morris. Conclusions, by R. M. Waters. References. Index.

Note. The results of a series of planned studies of chloroform as an anesthetic drug are reported in this short but valuable book. The studies were arranged so that they were made of an old drug rather than a new one. Some of the studies were conducted on a-

SURGERY

GENERAL

AMERICAN COLLEGE OF SURGEONS

Surgical forum. Proceedings of the forum sessions thirty-seventh clinical congress of the American College of Surgeons San Francisco California, November 1951 Surgical forum committee Owen H. Wangensteen and others Philadelphia W B Saunders Company 1952 667 p illus. 25 cm. $10 00 1345

Contents (abridged) The lungs and esophagus: Evaluation of chest suction with an artificial thorax, by B. E. Howe, jr A method for the production of reversible endobronchial obstruction in dogs, by C. H. McCroskey and others. The effects of hemorrhage and intravenous and intra-arterial infusion upon respiration and the volume of blood in the lungs, by R. Wilson and A. F Reid. Endobronchial Geiger counter studies of intrathoracic malignancies utilizing radioactive phosphorus, by K. P Klassen and others. The effect of streptokinase and streptodornase on wound healing in pulmonary resection, by O. Creech and others. The stomach and spleen. An *experimental study of the effect of banthine and atropine upon* gastric secretion and peptic ulceration, by H. N Harkins and L. R. Jurrage. The effect of radiation from radioactive iodine on gastric secretion, by R. A. Foote and others. The use of ACTH in hypersplenism, by F C. Kiernan and O. B. Hunter jr The intestines. The experimental use of hyaluronidase in the prevention of intestinal adhesions, by J E. Connolly and V Richards. Influence of size of meals and frequency of feeding on motility of the small intestine, by F H. Schrecker and others. Experimental studies on closed colon loops, by A. W Ulin and others. Suture strength and healing strength of end-to-end intestinal anastomoses, by N M. Fallows and others. The liver and portal system. Studies on the hepatic circulation in the *Macaca mulatta* monkey and in man, by C. G. Child and others. Studies of hepatic response to changes in blood supply, by W E. Burnett and others. Reciprocal hydrostatic relationship between the portal and caval systems—its application to the problem of ascites, by H Laufman and others. The effect of diversion of bile to various parts of the intestines, by C. Links. The role of concentration of bile in toxicity by J. R. Johnson. The heart. A physiologic evaluation of the surgical treatment of mitral stenosis, by H. Hallgren and others. A cinematographic study of the function of the mitral valve in situ, by A. Kantrowitz and others. Homologous heart grafts—transplantation of the heart in dogs, by E. Marcus and others. The maintenance of circulation by cross-transfusion during experimental operations on the open heart, by E. Karr and others. Practical exposure to permit experimental surgical procedures within the left heart, by G H A. Clowes, jr Blood vascular system and blood flow. Long femoral and ilio-femoral grafts, by J. Annola and others. Early results of experimental studies of the action of high intensity electrons on aortic homografts, by K. K. L. Hui and others. Arterial ligation—should the vein be ligated too?, by H. Swan and others. The retardation of clotting of whole blood on contact with stainless steel, by C W Walter and others. Dural sinus studies in relation to radical operations of the neck, by A. J. Aslyan and others. The influence of ACTH on venous thrombosis, by K. O. Nelson. Experience with normally circulating fibrinolytic enzymes in surgical diseases, by R. R. Margulis and J. F Pratt. The urogenital tract. The effect of nitrofurazone on tumors of the human testis and prostate gland, by C. E. Friedgood and C. R. Ripstein. Mode of development of electrolyte imbalance in ureterosigmoid anastomosis, by J. Lapides. Extraperitoneal pneumography—an experimental study by D E. Smith and others. Neurophysiology and neurosurgery. The absorption of the cerebrospinal fluid—studies with radioactive phosphorus (P^{32}) by L. Mann and J. E. Adams. The effect of cortisone and ACTH on scarring in the brain and in peripheral nerves, by E. Baldrey and others. Air emboli complicating operations on the brain and spinal cord, and measures to prevent them, by R. Jaeger. Treatment of hydrocephalus by direct shunt from ventricle to jugular vein, by F E. Nulsen and E. B. Spitz. Orthopedics. Human electromyography, by B. Libet and B. Feinstein. Experimental study of the fate of bone grafts, by C. Campbell and others. A preliminary report on studies of basic calcium phosphate in bone replacement, by R. D. Ray and A. A. Ward, jr Experimental increase in leg length—a preliminary report, by C. L. Wilson. Repair and regeneration: An experimental method for the study of skin homografts, by P Randall and others. The effects of ACTH and cortisone on experimental skin homografts, by P Randall and others. The effect of cortisone on wound healing, blood regeneration and growth, by R. Haley and J. F Lane. Some observations on connective tissue growth and tissue culture in relation to keloid formation—a preliminary report, by D. W Robinson and others. Evaluation of the exposure method in the treatment of burns, by E. J. Pulaski and others. The prevention of adhesions in the chest and the pericardium by cortisone, by S. R. Schamberg and others. The topical use of streptokinase-streptodornase in infected and necrotic lesions, by S. L. Tabachnick and others. The endocrines: Studies on the control of salt regulating adrenal hormones, by B. Zimmermann and M. M. Schoenbrenner Effect of autonomic blocking drugs on experimental pancreatitis, by J. D. Palmer. Physiological studies on the external pancreatic secretion in man, by J. M. Howard and others. Body fluid and electrolytes, blood volume and shock: The turnover rate of body water in the human, by H. B. Haley and others. The use of radioactive iodinated human serum albumin (RIHSA) for clinical total blood volume studies, by J. R. Aust and others. A new approach to fluid and electrolyte therapy by A. Hurwitz and others. The absorption and excretion of [illegible] agents in hemorrhagic shock, by T M. Cloud and others. Comparative effectiveness of certain volemic substances in maintaining plasma volume after blood loss, by R. C. Knutson and others. Index.

Note. Original papers bearing on recent experimental investigations, on advances in the knowledge of chemistry as newly developed surgical techniques, etc., prepared for the congress named in the volume title have been collected in this book. Altogether 114 papers are reprinted in full and many others are represented by abstracts. The average length of an individual paper is about five and one-half pages, but in this small space most authors have succeeded in giving enough information to enable the reader of the volume to judge whether the process or technique under discussion is of value to him. Most of the papers are supplemented by literature references and illustrations.

ANSON BARRY JOSEPH AND WALTER G. MADDOCK

Callander's surgical anatomy Third edition with 929 illustrations. Philadelphia. W B Saunders Company 1952 1074 p. illus. 26 cm. $14 00. 1346

Contents (abridged) Part I, The head. Part II, The neck. Part III, The thorax. Part IV Abdomen. Part V The pelvis. Part VI, Female perineum. Male perineum and external genitalia. Part VII, Female perineum and external genitalia. Part VIII, The vertebral column, vertebral canal, and spinal cord. Part IX, Upper extremity. Part X, Lower extremity. Index.

Note (2391) One of the standard American texts for medical college students preparing for surgery. The primary emphasis is on anatomy but the basic material is carefully related to surgical techniques and to related topics such as anesthesia. The preceding edition appeared in 1939 and was the work of Dr. C. L. Callander. In this edition the work is substantially enlarged and there are many new illustrations. The authors are members of the faculty of Northwestern University Medical School.

BLAND JOHN H.

The clinical use of fluid and electrolyte. Illustrated. Philadelphia W B Saunders Company 1952 259 p. illus. 28 cm. $6.50. 1347

Contents. Basic physiologic considerations of body fluid and electrolyte. "Pure" and mixed water and sodium chloride depletion. Water and electrolyte in congestive heart failure. Normal and abnormal potassium metabolism. Water and electrolyte in pediatric patients. Fluid and electrolyte in the aged and aging. Parenteral fluids in surgical patients. Fluid and electrolyte in renal disease.

Fluid and electrolyte in diabetes mellitus. Fluid and electrolyte in adrenal cortical insufficiency. Adverse effects of heat on body water and electrolyte. ACTH and cortisone—physiologic effects in body fluid and electrolyte. Behavior of body water and electrolyte in shock, burns, crush and blast injury roentgen irradiation and exposure to cold and other stress.

Note: Current knowledge of the interrelationships of body fluid and electrolyte is in this work summarized and interpreted for the benefit of general practitioners of medicine, clinicians, and those who are concerned with the pre- and post-operative care of surgical patients. The basic knowledge and the experimental and clinical observations on which it is based are adequately covered, but the emphasis is on the aspects that have practical application in diagnosis and treatment. Statements in the text are referenced to fuller discussions in the literature. However, explicit information is given on diets, solutions, drugs and dosages in the book itself. The author is a member of the faculty of the College of Medicine of the University of Vermont.

CHRISTOPHER, FREDERICK

A textbook of surgery by American authors. Fifth edition. 1465 illustrations on 742 figures. Philadelphia W B Saunders Company 1950 1550 p. illus. 27 cm. $13 50. 1348

Contents (abridged) Inflammation and wound healing. Shock; acidosis and alkalosis; water and electrolyte balance. Bacteriology and chemotherapy. Bacterial, fungus and virus diseases. Thermal, chemical, electrical and irradiation injuries. Muscles, ligaments and bursae. Tendons, tendon sheaths and fascial spaces. *Infections and tumors of bones and joints.* Fractures. Dislocations. Deforming paralytic disorders; derangements of bones and joints. Amputations and prostheses. The nervous system. The endocrine system. The vascular system. The lymphatic system. The skin and adjacent tissues. The head. The neck. The breast. The thoracic wall, pleura and lungs. The heart and pericardium. The mediastinum, including the esophagus. The abdominal wall. The peritoneum. The stomach and duodenum. The small and large intestines. Anal canal and rectum. The liver and biliary system. The pancreas. Hernia. The genitourinary tract. Gynecology. Military surgery. Plastic surgery. Aseptic surgical technic. Preoperative and postoperative care. Roentgenology. Anesthesia. Index.

Note: (1175*) A standard and widely used medical college textbook. The chapters have been written by eminent surgeons and teachers of surgery and each man has covered a branch of surgery in which he is recognized as an expert. In the present edition there are 230 chapters or subsections written by 197 authors. Chapters are devoted to such specific topics as surgical treatment for congenital obstructions of the bile ducts. In general for each disorder covered the etiology pathology symptoms, diagnosis and medical and surgical treatments are concisely described. *In* numerous instances medical treatment is emphasized. Not all surgical techniques are covered but several leading ones are often described for a specific disorder. The fourth edition was published in 1945. Approximately 30 new sections have been added to this edition and about a dozen sections carried over have been extensively revised. Recent literature has been added to the lists of references.

COLE, WARREN HENRY editor

Operative technic. Introduction by Frank H. Lahey New York Appleton-Century Crofts, Inc. 1949 2 v illus. (part col d) 25 cm. Vol. I, $18.00 Vol. II, $16.00 1349

Contents: Volume I, General surgery. Wound healing and the care of wounds, by E. L. Howes. Hemorrhage and shock, by J. D. Stewart. Burns, by C. C. Lund and S. M. Levenson. Preoperative and postoperative care, by R. Elman. Amputations, by P. M. McKeever. *The face, mouth and jaws,* by J. B. Brown and F. McDowell. The esophagus, by W. E. Adams. Abdominal incisions, by F. A. Coller and K. F. Maclean. Surgery of stomach and duodenum, by W. Walters. Gastric vagotomy in the treatment of peptic ulcer, by L. R. Dragstedt. Surgery of the small intestine, by C. Dennis. The pancreas and adrenal, by A. Brunschwig. The gallbladder and bile ducts, by W. H. Cole. The liver and subphrenic space, by A. Ochsner and M. E. DeBakey. *The colon and appendix,* by R. E. Graham and J. Grey. The lower part of the sigmoid, the rectum and anus, by C. F. Dixon and A. L. Lichtman. The lymphatic system, by R. K. Gilchrist. Splenectomy by W. H. Cole. The surgery of portal hypertension, by M. A. Wenisch. Abdominal hernia, by R. F. Lehman and C. E. Davis, Jr. The breast, by T. G. Orr. The thyroid and parathyroid glands, by J. de J. Pemberton and B. M. Black. *The muscles, fascias, tendons and bursae,* by H. L. Mo-

Leuchlin. *Acute vascular injuries,* by M. E. DeBakey. *Traumatic* aneurysm and arteriovenous fistula, by D. Elkin. Varicose veins, by M. E. DeBakey. *Surgery of the hand and its tendons,* by H. S. Allen and S. L. Koch. The skin and subcutaneous tissues, by F. Glenn. Index. Volume II, Specialty surgery. Introduction, by A. O. Whipple. *Plastic surgery* by P. W. Greeley. Thoracic wall, pleural cavity lungs and diaphragmatic hernia, by J. M. Dorsey. The heart and mediastinum, by C. S. Beck. *Fractures,* by J. A. Key. Hematogenous osteomyelitis, by F. Dickson. Deformities and neoplasms *of the bone,* by C. E. Badgley. *Surgical approaches to the joints,* by L. C. Abbott and others. The orthopedic surgical treatment of spastic paralysis and anterior poliomyelitis, by F. A. Chandler. Scalp, cranium and brain, by H. A. Brown and H. C. Naffziger. The spinal cord, by C. Pilcher and W. F. Meacham. *Surgery of the intracranial nerves,* by F. C. Grant. Peripheral nerves, by R. G. Spurling. The autonomic nervous system, by R. H. Smithwick. Gynecological surgery by *J. V. Meigs and L. Parsons. The male genito-urinary system,* by D. K. Rose. Index.

Note. A broad presentation edited by the head of the Department of Surgery of the College of Medicine of the University of Illinois and written by eminent surgeons of the United States of America and Canada. Each of the papers or chapters is essentially a short monograph in which most of the space is given to explicit descriptions of technique but which contains background information on anatomy and physiology usually some information on the history of the operation and also literature references. Together the two books contain over 900 figures of which a few are reproduced in color

COLE, WARREN HENRY AND ROBERT ELMAN

Textbook of general surgery Foreword by Evarts A. Graham. Sixth edition. New York *Appleton-Century-Crofts, Inc., 1952* 1154 p. illus. 24 cm. $12.50. 1350

Contents (abridged) Inflammation and repair. Acute surgical infections. Ulcer, gangrene, sinus, fistula. Surgical methods. Anesthesia. Wounds. Amputations. Surgery in diabetes. Shock and hemorrhage. Thermal, chemical and electrical trauma. Fractures, dislocations and sprains. Blood vessels. The lymphatic system. The nervous system. Liver, gallbladder, pancreas and spleen. The alimentary tract. *The peritoneal cavity.* Hernia. *Surgical diseases of the chest,* by E. A. Graham and T. H. Burford. The endocrine glands. Gynecology. Military surgery by F. R. Berry. Index of authors. Index of subjects.

Note: (1174*) A standard textbook for medical college courses. It covers the physiological and pathological bases of surgery and describes the main surgical diseases with emphasis on their etiology *and clinical manifestations. The treatment of each disease is* also outlined and non-surgical therapies are considered along with surgical ones. Numbers inserted in the text lead the reader to citations of related literature where fuller discussions of particular therapies can be found. The fifth edition was published in 1948. Important though moderate revisions and additions were made in preparing this edition. The revised and added material relates to such fields as thoracic surgery cardiac surgery gastrointestinal surgery and vascular surgery

CUTLER, ELLIOTT CARR, AND ROBERT M ZOLLINGER

Atlas of surgical operations. Second edition. Illustrated by Mildred B Codding. New York The Macmillan Company 1949 225 p. illus. 38 cm. $12.00 1351

Contents (abridged) A. General considerations: Surgical technic. Anesthesia. Preoperative and postoperative care. B. Surgical operations: Neck. Chest. Abdominal wall. Gastro-intestinal system. Pilonidal sinus. Spleen. Gynecologic system. Extremities. Genito-urinary system. Central nervous system.

Note: (1181) In this work the common surgical operations are described by means of a brief text and fairly detailed drawings arranged in sequence for each operation. The book is made up so that the drawings are on right hand pages and the explanatory text is on facing left hand pages. It is not a work for specialists but it is useful one for advanced medical students, young surgeons, and general practitioners doing occasional surgery. In the present edition 30 procedures have been added. New illustrations are of course included for them and in addition many of the illustrations that were in the original edition have been redrawn.

FRANTZ, VIRGINIA KNEELAND, AND HAROLD DORTIC HARVEY

Introduction to surgery Second edition. New York Oxford University Press, 1951 233 p illus. 19 cm. $2 75 1352

Contents (abridged) History Injury and inflammation. Degeneration, hypertrophy atrophy regeneration. Deformities. Cysts. Neoplasms. Contusions. Abrasions. Incised wounds. Wounds with loss of substance. Repair of accessory skin structures. Repair of mucous membranes. Repair of muscle. Repair of tendon. Repair of hollow and solid viscera. Repair of nervous system. Repair of serous and synovial surfaces. Repair of cartilage. Repair of bone. Calculi. Infection. Infection in serous and synovial cavities. Infection in bone. Drainage. Operative wounds. Accidental wounds. Ulcers. Burns. Gangrene. Hemorrhage. Shock. Contact with the patient. Surgical technique. Anesthesia. Plastic surgery Experimental surgery The new surgery Bibliography Index.

Note. (1190*) A short, lucid and useful presentation of information about the injury inflammation, surgical repair and natural healing of tissues. It is intended for student surgeons but it contains background knowledge rather than detailed descriptions of surgical techniques. In the present edition chapter entitled "The new surgery" in which the great surgical advances based on better understanding of the blood, body water and electrolytes, the development of the antibiotics, etc are described. Various statements and passages elsewhere in the book have been revised.

HARDY JAMES D

Surgery and the endocrine system physiologic response to surgical trauma—operative management of endocrine dysfunction. Philadelphia W B Saunders Company, 1952 153 p. illus. 25 cm. $5 00 1353

Contents: The alarm reaction in the surgical patient—general endocrine relationships. Metabolic aspects of body fluid regulation and of shock. The dynamics of nutrition—the relation of nutrition to an adequate response to trauma. The physiologic basis of early ambulation—notes on convalescence. The endocrinology of surgical infections, thermal burns, tissue repair and neoplasia. Endocrine therapy in surgical patients. The thyroid gland. Hyperparathyroidism. Functioning tumors of the islands of Langerhans. The adrenal glands—surgical considerations. The pituitary thymus, and gonads. Index.

Note. The dual viewpoint in this book is indicated both in its title and in the table of contents. In it are presented (1) concise survey of the relations between the endocrine system and surgical trauma and (2) the surgical management of endocrine disease. Most of the chapters are short and are essentially outlines. However, each one is supplemented by long list of references. The author is member of the faculty of the Medical College of the University of Tennessee.

LAHEY CLINIC Boston

Surgical practice of the Lahey Clinic by members of the staff 784 illustrations on 509 figures Philadelphia W B Saunders Company, 1951 1014 p illus. 26 cm. $15.00 1354

Contents (abridged) The thyroid gland and neck: Experience with the preoperative use of the antithyroid drugs, by F H. Lahey and E. C. Bartels. Technic of subtotal thyroidectomy by F H Lahey Surgical treatment of hyperthyroidism, by R. B. Cattell. The surgical treatment of progressive exophthalmos, by J. L. Poppen. Malignancy in adenomas of the thyroid, by F H. Lahey and H. F Hare. Radical dissection of the neck, by F H. Lahey Tracheotomy after thyroidectomy by F H. Lahey and W B. Hoover. Tumors of the neck, by F H. Lahey Trends in surgery for carcinoma of the larynx, by W B. Hoover The esophagus, lungs and heart The surgical management of obstructing lesions of the esophagus, by H. D. Adams. The technic of total pneumonectomy by D P Boyd. The surgical treatment of extrapulmonary neoplasms, by D. P Boyd and J M. Moody Treatment of portal hypertension and associated acute hemorrhage, by H. D Adams. The stomach and duodenum The surgical treatment of diaphragmatic hernia—clinical report of 73 cases, by D. P Boyd and J. N Clemens. Partial gastric resection for peptic ulcer by K. F Marshall. Should total gastrectomy be employed in early carcinoma of the stomach? Experience with 139 total gastrectomies, by F H. Lahey and S. F Marshall. *The small intestine, colon, sigmoid and rectum:* Resection of the small intestine, by K. W Warren. Technic of ileostomy by R. P Colcock. Indications for surgical intervention in ulcerative colitis, by F H. Lahey Polyps of the colon and rectum, by K. W. Swinton and J. H. Hall. Prognosis in carcinoma of the colon and rectum, by R. P Colcock. Abdominoperineal resection for carcinoma of the rectum, by R. B. Cattell. The biliary tract: Experience with the operative management of 280 strictures of the bile ducts, with description of new method and complete follow-up study of the end results in 229 of the cases, by F H. Lahey and L. J. Pyrtek. The spleen, adrenal gland and pancreas: Splenectomy: when is it indicated? by F H. Lahey and J. W Norcross. Partial pancreatectomy by R. B. Cattell. An appraisal of pancreatoduodenal resection follow-up study of 61 cases, by R. B. Cattell and L. J. Pyrtek. *Pheochromocytoma—its diagnosis and treatment*, by E. C. Bartels and R. B. Cattell. The pelvis: Presacral neurectomy, by C. E. Sedgwick. Treatment of prolapse of the uterus, by R. P Colcock. The management of vesicovaginal fistula, by E. E. Emett. The bones and joints: The treatment of primary malignant bone tumors of the humerus, by G. E. Haggart. The management of chronic suppurative osteomyelitis of the femur by G. E. Haggart and M. T Hurley. The brain, spinal cord and nerves: Treatment of tumors of the pineal body by G. Horrax. The end results of complete versus intracapsular removal of acoustic tumors, by G. Horrax and J. L. Poppen. Meningiomas and neurofibromas of the spinal cord, certain clinical features and end results, by G. Horrax and others. The herniated intervertebral disk; 400 proven cases 18 months to 10 years following operation, by J. L. Poppen. Relief of angina pectoris by sympathectomy by J. A. Evans and others. The technic of lumbar sympathectomy by J. L. Poppen. Anesthesia: Preoperative preparation and premedication, by M. J. Nicholson. Technic of endotracheal anesthesia, by M. J Nicholson. Complications of spinal anesthesia, by U. H. Eversole. Experiences with cardiac arrest, by F H. Lahey and R. R. Ruzicka. Miscellaneous *Surgery of Ménière's disease*, by F D. Lathrop. The practical anatomical and surgical considerations for exposure of the facial nerve, by F D. Lathrop. Anticoagulant treatment of postoperative venous thrombosis and pulmonary embolism, by J. A. Evans and J. F Dee. *Surgical management of arteriovenous aneurysms, by H. D. Adams.* Repair of incisional hernia, by R. B. Cattell. The repair of inguinal hernia, by K. W Warren. Index.

Note. Surgical procedures which have become standardized at the Lahey Clinic are described and illustrated in this work. Dr. Lahey has stated in the book's preface: we have continued to be impressed with the fact that, with allowance for the natural variations in anatomy and pathology the employment of standardized operative procedures by all of the surgeons in the clinic makes for refinement of operative detail and 'unhesitating cooperation on the part of the operating nurses and assistants. Altogether there are 75 papers of which only selection is noted above by author and title. The book is of interest to students of surgery and to practitioners individually and to the staffs of surgical clinics.

MARKOWITZ, JACOB

Experimental surgery, including surgical physiology Second edition. Baltimore The Williams & Wilkins Company, 1949 546 p. illus. 24 cm. $7.00. 1355

Contents (abridged) The antivivisection movement. Care and feeding of animals. Anesthesia. Equipment, technic, sutures and instruments. Technic of opening and closing abdominal cutaneous incisions. Technic for opening and closing the thorax of dogs—laparotomy. Technic for opening and closing the thorax of dogs. Elementary exercises suitable for undergraduate medical students. Standard technical procedures in the surgery of the alimentary canal. *Gastric fistulas. Intestinal fistulas.* The experimental production of chronic peptic ulcer. Exteriorization of an intestinal loop. Absorption, excretion and motility of the isolated colon. Experimental surgery of the esophagus. Experimental surgery of the pancreas. Total surgery of the esophagus. Experimental surgery of the gall bladder. Transplantation of biliary fistula. Experimental surgery of the gall bladder. Transplantation of ducts. *Vascular transplantation.* The experimental surgery of bone. Several standard intracranial operations. The experimental surgery of the heart. Experimental surgery of the autonomic nervous system. Vascular surgery. Transplantation of organs. The experimental surgery of the liver. Index.

Note: (2400) A pioneer text which is designed primarily for the use of medical students enrolled in introductory surgery courses. The operating techniques described are for use on animals, particularly dogs. The first edition was published in 1937. Except for one minor change the chapter titles are the same in this edition. However, important revisions have been made throughout, and the type from which the book is printed has been reset. Again, there are extensive lists of references.

MONOGRAPHS ON SURGERY 1952. B Noland Carter editor Advisory editors Gynecology Joe V Meigs Urology Charles Huggins Or

thopedic surgery, Alfred R. Shands. Baltimore The Williams & Wilkins Company 1952 430 p. illus. 26 cm. $12.50 1356

Contents: The radical surgery of pancreaticoduodenal cancer by A. O. Whipple. Radioactive iodine in the diagnosis and treatment of thyroid disease, by G. M. Curtis and C. V Meckstroth. The management of acute chest injuries, by B. Blades and R. C. Garby. Urinary incontinence in the female: Introduction, by J. V Meigs. The etiology of urinary stress incontinence in women, by R. R. Mueller. Operative technic for stress incontinence of urine in the female, by W T Kennedy. The vaginal approach in the surgical treatment of stress incontinence, by L. F Frost. Transplantation of fascia for relief of urinary stress incontinence, by A. H. Aldridge. The use of the pubococcygeal muscles in the repair of stress incontinence, by A. Ingelman-Sundberg. Physiologic therapy of urinary stress incontinence, by A. H. Kegel. The internal fixation of fractures of the shafts of long bones, by G. W N. Eggers. Intracapsular fractures of the femoral neck—their care and complications, by K. R. Schottstaedt and others. Aseptic (avascular) necrosis of the femoral head in adults, by W Cooper. Arthroplasty by R. A. Knight. Congenital ureteral and pelvic dilatation as evidence of obstruction, by F Hinman, Jr. Renal neoplasms, by W F Whitmore. Surgery of the large arteries, by N. E. Freeman and others. Index.

Note: This third volume in series which is designed to replace Nelson's *Loose leaf surgery* contains the monographs noted above. Each volume of the series contains new monographs on selection of topics in surgery. The typical monograph is critical survey of the techniques and practice in specific area of surgery. The purpose of the series is to make information on new techniques and experience generally available to surgeons. A liberal use is made of illustrations; for instance, Eggers' monograph on the "Internal fixation of fractures of the shafts of long bones" in the present volume contains 44 figures. Literature references are furnished with each monograph.

Moore, Francis D and Margaret R. Ball

The metabolic response to surgery Metabolic diagrams by Mildred B Codding. Springfield Illinois Charles C Thomas, 1952 156 p. illus. 29 cm. (American lecture series. Publication number 132 A monograph in American lectures in surgery edited by Michael E De Bakey and R. Glen Spurling) $7.50 1357

Contents: Technique—subjects and methods; presentation and charting; terminology and interpretation. The response to single trauma. The detection; being separate consideration of starvation, immobilization and endocrine factors in the operative response. Further responses to trauma and depletion. Complex problems in metabolic response. Changing the balance. Facts and corollaries; being summary of the book, together with clinical corollaries which may be drawn in applying these concepts to the care of surgical patients. Appendix: Surgical diets and parenteral supplements. Bibliography.

Note: A work based partly on original studies made by the authors at Peter Bent Brigham Hospital and Massachusetts General Hospital, Boston, and partly on the literature. The original studies were made on "everyday surgical patients" with the use of healthy persons for control studies. The book is addressed to practicing surgeons and its purpose is to provide authoritative information on the metabolic factor in the responses of patients to surgery. It includes rather full discussions of variety of case histories. The last chapter in which the knowledge is compactly summarized is useful feature. The bibliography runs to 18 columns and includes not only literature cited in the text but also other studies which the authors believe have potential usefulness for their readers.

Moyer, Carl A.

Fluid balance a clinical manual. Chicago The Year Book Publishers 1952 191 p. 18 cm. 1358

Contents: Early studies on body fluids. Chemistry of body fluids. Body fluid equilibrium. Disturbances of body fluid equilibrium. Evaluation of diagnostic signs of fluid imbalance. Clinical and laboratory signs of changes in fluid volume and osmolar concentration. Diagnosis of changes in ionic composition of body fluids. Distributional shift of extracellular fluid. Descriptive diagnosis of fluid imbalance. Treatment of fluid imbalance. Role of fluid therapy in surgical patients and in trauma. Complications of parenteral fluid therapy. Index.

Note: A short but useful volume on the diagnosis and treatment of fluid and electrolyte imbalances. There is some emphasis on the rapid interpretation of signs and symptoms. Lists of literature references are included. The author is Professor of Surgery in the School of Medicine of Washington University.

Orr, Thomas Grover

Operations of general surgery Second edition. With 1700 step-by-step illustrations on 721 figures. Philadelphia W B Saunders Company 1949 890 p. illus. 27 cm. $14.50 1359

Contents: Wound healing. Treatment of fresh wounds. Sutures and knots. Amputations. The skin and subcutaneous tissues. Muscle, fascia, and bursa. Tendons and tendon sheaths. Thorax and respiratory system. The breast. Circulatory system. Abdominal incisions. Digestive system. Hernia. Bones and joints. The nervous system. The sympathetic nervous system. Lymphatic system. Endocrine system. Congenital anomalies. Genito-urinary system. Female reproductive system. Index.

Note: (1402) A successful textbook for students in medical colleges and manual for practicing surgeons. Surgical technique is of course the main subject matter but surgical anatomy dangers, and safeguards, as well as other practical information, are included also. All surgical techniques are not described; instead, only one or two proven techniques for each operation are given. The illustrations are of high quality and include number of step-by-step sequences. The first edition was published in 1944. In the present edition the work has been enlarged by 140 pages and the number of illustrations substantially increased. Additions have been made to the chapter bibliographies.

Schafer, Paul W

Pathology in general surgery With 495 plates. Chicago The University of Chicago Press 1950. 581 p. illus. (part col d) 27 cm. (The University of Chicago Committee on Publications in Biology and Medicine, edited by Lester R. Dragstedt and others) $17.50 1360

Contents: Painless and general aspects. Vascular system. Endocrine glands. Breast. Lung and mediastinum. Head and neck. Esophagus. Stomach. Duodenum and small intestine. Appendix, colon, and rectum. Pancreas. Liver. Gall-bladder and bile ducts. Peritoneum. Index.

Note: *The pathology of diseases usually treated by surgery is the* subject of this book. The author points out that the duty of surgeons is "to follow resected tissues into the laboratory there to determine their gross and microscopic character. Such clinical pathologic correlations not only represent the basis for improvement in the practice of medicine, but should also be regarded as the reference point from which may be derived original concepts so vital to the continued advance of the frontiers of medical knowledge. The chapters whose titles are listed above are subdivided by specific diseases. For example, the chapter on the pancreas has the following subheads: "Pancreatic cysts, Acute pancreatitis, "Chronic pancreatitis, "Islet-cell tumors," "Carcinoma of the pancreas, and "Sarcoma of the pancreas. Each individual disease is discussed in several pages of text, which are accompanied by large illustrations of typical pathological specimens. There are 495 plates and more than half are reproduced in color. Literature references are included.

Surgical clinics of North America

Symposium on safeguards in surgical diagnosis. Philadelphia number Philadelphia W B Saunders Company 1952 1563–1903 p. illus. 23 cm. (Surgical clinics of North America, December 1952) Paper $15.00 per year cloth, $18.00 per year 1361

Contents: Foreword, by J. H. Oldham, Jr. Intracranial aneurysm—surgical diagnosis and treatment, by R. Jaeger. Neurosurgery—

some diagnostic problems, by R. A. Cooke. Surgical diagnosis in cancer of the head and neck, by H. P Royster Surgical disorders of the thyroid gland—the complete diagnosis, by T. A. Shallow and others. The diagnosis of carcinoma of the larynx, by L. H. Clerf and others. The diagnosis of benign lesions of the esophagus, by K. K. Fry and F J Putney The diagnosis of lung cancer by F F Allbritten, Jr., and others. The diagnosis of mediastinal tumors, by W E. Burnett and others. Surgical diagnosis of genito-urinary conditions, by T R. Fetter and W C. Drake. Surgical diagnostic problems in obstetrics, by T L. Montgomery Acute abdominal pain of female genital origin, by P O. Klingensmith. Adequate measures in the diagnosis of uterine cancer—with regard to management and treatment, by L. C. Scheffey and W R. Lang. The Roentgen diagnosis of neoplasms of bone, by R. S. Bromer. Accurate diagnosis in lesions of the shoulder and knee joint, by A. F DePalma. Ruptured intervertebral disks, by F C. Grant and F K. Nelson. The recognition of deficient blood volume in surgical patients, by J Y Templeton, III, and R. K. Finley Jr Clinics on other subjects: The management of polyps of the colon and rectum, by H. R. Hawthorne. Surgery of the mitral valve. Index to volumes 10, 11 and 12.

Note. (1603a) *Surgical clinics of North America* is published six times a year and is continuously paged through the volume as a periodical. However each issue is devoted to a symposium on a topic of current interest, and the issues are available bound in cloth as well as in paper. The December 1952 issue contains the papers listed above. The authors are teachers and practitioners of surgery and the volume is intended for graduate surgeons.

THOREK MAX

Modern surgical technic. With a foreword by Fred W Rankin. Second edition. 2 590 illustrations including 57 full color plates. Philadelphia J B Lippincott Company 1952 4 v and index. illus. (part col d) 26 cm. $79 00 1362

Contents (abridged) Volume I. Part I, General operative considerations: The surgeon and his art. Selection and management of "poor-risk" patients. Postoperative considerations. Anesthesia, by C. J. Betlach. Blood transfusion. Electrosurgery Part II, Surgery of head and neck and principles of plastic surgery: Surgery of the orbit and eye, by J Igersheimer Surgery of the ears and adjacent structures, by W L. Gatewood. Surgery of the face. Surgery of the jaws. Surgery of the sinuses and tonsils, by W L. Gatewood. Surgery of the neck and the cervical endocrine glands. Principles of plastic surgery and skin grafting. Volume II. Part III, Surgery of the nervous and vascular systems: Surgery of the central nervous system, by H C Voris. Surgery of the arteries, by R. W Mc-Nealy Surgery of the veins, by H O McPheeters. Part IV Surgery of the chest, by R Nissen. Part V Surgery of bones and joints Orthopedic surgery by K. Eichelbaum and H. K. Turner. Fractures, dislocations and sprains, by J J Callahan. Volume III. Part VI, Surgery of the breast. Part VII, Surgery of the abdomen Surgery of the stomach and the duodenum. Surgery of the intestines. Surgery of liver gallbladder and biliary passages Surgery of the pancreas. Surgery of the spleen Volume IV Part VIII, Hernias. Part IX, Gynecology and genito-urinary surgery Index.

Note (2604) A cyclopedic work of reference nature. The techniques described are those in fairly wide, current use. Each technique included is covered explicitly in considerable detail. The textual descriptions are supplemented by illustrations and many of these are arranged in step-by-step series Short lists of selected references are included in most chapters The book is well suited to use as a reference work in the offices of general medical practitioners and general surgeons It is useful also to surgeons practicing specialties who are sometimes called upon to perform operations outside their own fields. The first edition was published in 1938 in three volumes and was released in 1942 in a one-volume edition for the use of medical officers of the Armed Forces. In this second edition more than 400 pages of text have been added and the number of illustrations has also been substantially increased

THORNDIKE, AUGUSTUS

A manual of bandaging strapping and splinting. Second edition with 119 illustrations. Philadelphia Lea & Febiger 1950 148 p. illus. 19 cm. $2.00 1363

Contents The dry sterile dressing for clean wounds. Septic wound dressing Sprains, strains, and contusions. Dislocations and emergency splinting Transportation of fractures. The use of plaster of Paris and similar bandages in splinting Bibliography Index.

Note: (1404) A brief, illustrated manual addressed primarily to medical students, student nurses, and hospital orderlies. The second edition has been revised to incorporate the changes in practice brought about as a result of experience and research stimulated by World War II, including, among other new forms and types of useful bandaging materials, the plastic impregnated bandage used as a substitute for plaster of Paris bandage.

YEAR BOOK OF GENERAL SURGERY

The 1952 year book of general surgery (June, 1951–May 1952) Edited by Evarts A. Graham. With a section on anesthesia edited by Stuart C. Cullen. Chicago The Year Book Publishers, Inc., 1952 670 p. illus. 20 cm. $6 00. 1364

Contents: Introduction. General topics. Anesthesia. Shock. Water and electrolytes. Nutrition. Chemotherapy—antibiotics. Wounds, wound infection and burns. Neoplasms. Nervous system. Face, buccal cavity and neck. The thyroid and parathyroid. Breast. Mediastinum and thorax. Lung. Heart and major blood vessels. Peripheral arteries. Sympathectomy Peripheral veins—thrombophlebitis. Esophagus. Abdomen—general. Hernia. Liver and spleen. Stomach and duodenum. Biliary tract. Pancreas. Small intestine. Vermiform appendix. Colon and rectum. Anus. Kidney Adrenal gland. Extremities and spine. Anesthesia. Premedication. Inhalation anesthesia. Ventilation. Barbiturates. Muscle relaxants. Spinal anesthesia. Local anesthetics. Circulation. Miscellaneous. Index. Index to authors.

Note. Another volume in this useful series. Significant articles are selected from the medical literature of the world and are reduced to abstracts which average 500 words in length. These abstracts are classified under the various headings given in the contents above. They are not highly condensed summaries but are written in narrative fashion so that they can be read with ease. A reference to the original source is given and in numerous instances the abstract is supplemented by an evaluatory note written by the editor. There are 203 figures in the present issue.

ANESTHESIA

ADRIANI, JOHN

The pharmacology of anesthetic drugs a syllabus for students and clinicians. Third edition, completely revised. Springfield, Illinois Charles C Thomas, 1952 179 p. illus. 28 cm. $9 50 1365

Contents: Effects of physical and chemical properties on pharmacological activity Administration, absorption and elimination of volatile anesthetic drugs. General systemic effects. Administration of volatile drugs. Gaseous agents. Volatile agents. Inorganic non volatile agents. Aliphatic non volatile agents. Barbiturates and other non volatile agents derived from urea. Opium alkaloids and synthetic analgesics. Local anesthetics. Non anesthetic drugs used in conjunction with anesthesia. Inorganic gases used in conjunction with anesthesia. Some clinical considerations. Glossary References. Index.

Note (3410) An illustrated digest of fundamental facts about the properties, actions, and techniques of administration of anesthetic drugs in current use. It is organized in chapters whose titles are given above. Within most of the chapters the drugs are taken up one by one. The history preparation, properties, administration, advantages, disadvantages, contraindications are all covered concisely In addition, the physiological actions are summed up in diagrams based on the human figure. The book contains a number of auxiliary reference aids such as a glossary tabulation of dosages, literature references, and a very detailed index. The second edition was published in 1941. For this edition the work was revised and expanded throughout and is now almost twice as long.

BURSTEIN CHARLES L.

Fundamental considerations in anesthesia. New York The Macmillan Company 1950. 153 p. illus. 22 cm. $4.50 1366

Contents: The autonomic nervous system. The respiratory pattern during general anesthesia. Respiratory disturbances: Apnea and during general anesthesia. Respiratory disturbances: Apnea, bradypnea, carotid body reflexes. Hyperpnea, hypopnea, tachypnea, upper respiratory Cheyne-Stokes' respirations, bronchoconstriction, upper airway obstruction. Laryngeal spasm. Circulatory disturbances: Cardiac plexus reflex. Carotid sinus reflex. During spinal anesthesia. Celiac plexus reflex. Carotid sinus reflex. Parasympathetic reactions: Other than vagal. Cardiac arrhythmias. Parasympathetic reactions: Other than vagal.

Vagal respiratory Vagal cardiac. *Gastrointestinal autonomic reactions.* Pulmonary control. Index.

Note: A monograph for clinicians and teachers, describing and analyzing complications that may arise during surgery It covers problems that occur during clinical anesthesia; considers the pharmacology physiology and physio-pathology involved in these problems and indicates the proper treatment for various reactions. *The author emphasizes the importance of* knowledge of basic physiology and pharmacology Bibliographical references are printed at the end of each chapter

CLEMENT FREDERICK WALTER

Nitrous oxide-oxygen anesthesia. Third edition, thoroughly revised, with 129 illustrations. Philadelphia Lea & Febiger 1951 369 p. illus. 24 cm. $6.50 1367

Contents (abridged) Part I, General considerations Properties and manufacture of gases. Theory of nitrous oxide-oxygen anesthesia. *Signs of nitrous oxide-oxygen anesthesia.* Metabolism and premedication. Charting and shock. Classification of patients. Part II, The administration of N_2O–O_2 anesthesia: The gas apparatus. Rebreathing. Obstruction, airways and resuscitation. Nitrous oxide-oxygen and curare. Oxygen want—oxygen excess—cyanosis. Part III, Special techniques Primary and secondary saturation. Pressure. Carbon dioxide absorption. Endotracheal anesthesia. Part IV Summary *of N_2O–O_2 anesthesia: Advantages and disadvantages of N_2O* for anesthesia. Comparison of nitrous oxide-oxygen with other gaseous anesthetics. Part Dental anesthesia analgesia. Part VI, Some physical factors in the administration of gaseous anesthetics, by E. I. McKesson. Index.

Note: (1641) The standard treatise on this kind of anesthesia. The author in association with the late E. I. McKesson played considerable part in its development. The first two editions of the book were largely limited to covering the McKesson-Clement technique; but in this considerably expanded edition the whole subject is covered, including the advances in the fundamental knowledge of anesthesia and the modifications in technique which have taken place in recent years. The book is of interest not only to anesthetists but also to surgeons and to dentists. Literature references are included.

COLLINS, VINCENT J

Principles and practice of anesthesiology 99 illustrations. Philadelphia Lea & Febiger 1952 528 p illus. 24 cm. $10 00 1368

Contents (abridged) Section I, General considerations: History and scope of anesthesiology Anesthetic equipment and its maintenance. Positioning of patients. Preanesthetic preparation and premedication. Inhalation technic Carbon dioxide absorption technic. Endotracheal technic Curare—an adjunct to anesthesia. Principles of spinal anesthesia Intravenous anesthesia Rectal anesthesia. *Refrigeration anesthesia* Explosions and fire hazards. Respiration—transportation of physiologic gases Section II, Regional technics: Blocks of the head. Blocks of cervical spinal nerves. Extremity blocks. Miscellaneous blocks Section III, Pharmacologic considerations. Section IV, Complications Respiratory derangements. Autonomic reflexes Cardiac arrhythmias Complications of spinal anesthesia. Temperature regulation and heat problems. Postoperative complications. The management of patients in coma. Resuscitation. Shock. Section Special considerations: *Pediatric anesthesia.* Anesthesia in the aged. Anesthesia in abdominal surgery Anesthesia for thoracic surgery Anesthesia for head and neck surgery Management of the diabetic patient Anesthetic management of the cardiac patient Obstetrical analgesia and anesthesia Section VI, Intravenous and inhalation therapy Index

Note: An inclusive work in which all phases of anesthesia are covered very compactly It is organized in 44 chapters, some of which are as short as five pages. However most chapters are supplemented by selected but fairly extensive lists of literature references. Information is included not only on all the established anesthetic drugs and techniques but also on the history of anesthesia, pertinent aspects of clinical medicine and of pharmacology pre- and post-operative complications of anesthesia, blood transfusions, inhalation therapy etc. The book is suitable for use as text in accelerated courses and as reference book by graduate physicians. The author is Director of the Department of Anesthesiology of St. Vincent's Hospital, New York City

CULLEN STUART CHESTER

Anesthesia in general practice. Third edition. Chicago The Year Book Publishers, Inc., *1951 292* p. illus. *21* cm. (The general practice manuals) $4 50 1369

Contents: Use of depressant drugs. Airway Inhalation anesthesia—agents. Inhalation anesthesia—technics. Spinal analgesia. Regional, infiltration and topical analgesia. Signs of anesthesia. Choice of anesthetic agent and technic. Recognition and treatment of shock. Oxygen therapy Pre- and postanesthetic care of the patient. *Explosion hazards.* Appendix Anesthetic agents available for office use. Index.

Note: (1193) A short manual addressed to general practitioners and part-time anesthetists rather than to specialists. Although the chief anesthetic drugs are described, the emphasis is on basic mastery and standard techniques The second edition was published in 1948. In this edition the first chapter has been extensively revised and less prominent changes have been made at various points in the other chapters. The length of the book has been increased by about 30 pages.

GRAUBARD DAVID J AND MILTON C PETERSON

Clinical uses of intravenous procaine. Springfield, Illinois Charles C Thomas 1950 104 p. illus. 22 cm. (American lecture series, Publication no 73 A monograph in American *lectures in anesthesiology edited by John* Adriani) $2.50. 1370

Contents: Introduction. Chemistry and pharmacology Intravenous local anesthesia. Pruritus. Serum sickness and other states of sensitivity Analgesia in burns and postoperative pain. Acute arrhythmias during anesthesia. Pain in traumatic and inflammatory conditions. Acute anterior poliomyelitis. Other indications. Index to authors.

Note. Rather than brief survey based on selection of the pertinent literature, this work is comprehensive review of its subject. The text is very concise; nevertheless the essential data in the source articles are stated. Some transcripts of case histories are included. The bibliographies appended to the chapters are international in scope. About 240 names appear in the author index, indicating the extensiveness of the literature coverage.

GUEDEL, ARTHUR ERNEST

Inhalation anesthesia, a fundamental guide. Second edition. New York The Macmillan Company 1951. 143 p illus. 22 cm. (Macmillan surgical monographs) $3 75 1371

Contents: Part I, Principles of inhalation anesthesia: Mechanism of inhalation anesthesia. Stages of anesthesia. Signs of anesthesia. Depth of anesthesia. The mechanism of various anesthetic requirements. *Part II, Anesthetic accidents. Accidents due to changes in* blood pressure during anesthesia, Ventricular fibrillation. Central respiratory failure Accidents due to peripheral respiratory interference. Aspiration of debris. Miscellaneous accidents. Cyanosis. Anesthetic explosions. Selected references Index.

Note. (1614) A concise, authoritative guide addressed to students and teachers in medical colleges, nurses, physicians and surgeons, as well as to anesthetists. Special attention has been given to describing the signs of anesthesia. The anesthetic requirements for various operations are stated explicitly The second part, which is devoted to anesthetic accidents, constitutes half of the book. Although few cases are discussed, this part consists mainly of discussions of techniques and precautions that guard against accidents.

WATERS RALPH MILTON editor

Chloroform a study after 100 years. Madison The University of Wisconsin Press, 1951 138 p. illus. 22 cm. $2 75 1372

Contents: The effect of chloroform on hepatic function, by O. S. Orth and others. The effect of chloroform on renal function, by O. S. Orth and E. B. Cohen. The effect of chloroform on the cardiovascular system, by O. S. Orth and others A clinical evaluation of chloroform, by N A. Gillespie. Chloroform in blood and respired atmosphere, by L. E. Morris. Conclusions, by R. M. Waters. References. Index.

Note. The results of series of planned studies of chloroform as an anesthetic drug are reported in this short but valuable book. *The studies were unusual in that they were made of an old drug* rather than new one. Some of the studies were conducted on ex-

perimental animals, but detailed observations were recorded of the results when chloroform was administered in more than 1000 cases of surgery on human beings. The editor is Director of the Department of Anesthesia of the Medical College of the University of Wisconsin.

FRACTURES

AMERICAN MEDICAL ASSOCIATION SPECIAL EXHIBIT COMMITTEE ON FRACTURES

Primer on fractures Prepared by the Special Exhibit Committee on Fractures in cooperation with the Committee on Scientific Exhibit of the American Medical Association Sixth edition. New York Paul B Hoeber, Inc. 1951 109 p illus. 24 cm. $2 00 1373

Contents. Emergency first aid splinting for arm and leg. How to apply plaster of paris bandages. Fracture of the neck of the femur. Intertrochanteric fracture of the femur. Fracture of the shaft of the femur. Fracture of the tibia and fibula. Fracture at the ankle. Fracture of the clavicle. Fracture about the upper end of the humerus. Fracture of the shaft of the humerus. Supracondylar fracture of the humerus. Fracture of both bones of the forearm. Colles' fracture. Dislocation at the shoulder joint. Compression fracture of the spine. Compression fractures of the os calcis. Fracture of carpus, metacarpus and phalanges. Active movement in the treatment of fractures. Massage in the treatment of fractures. Splints and accessories for the doctor's automobile. Splints and accessories for the doctor's office. Index.

Note. (2616a) A useful manual which supplements the Annual Fracture Exhibit staged by the American Medical Association for its members. The following information is given for each variety of fracture the directions the fracture may follow (transverse, oblique, etc) reduction and immobilization, immobilization by internal fixation (when appropriate), after care. Nonoperative treatment for fracture of the femur is described. The 46 illustrations are all reproductions of line drawings. In the present edition changes have been made in the terminology in illustrations, and in the format, but most of the book's content is the same as in the fifth edition, 1943 because there was no need for extensive revision.

COMPERE EDWARD LYON AND SAM W BANKS

Pictorial handbook of fracture treatment. Third edition. Revised with the assistance of Clinton L. Compere. Illustrated by Harold Laufman. Chicago The Year Book Publishers Inc. 1952 424 p. illus. 21 cm. (The general practice manuals) $6 50 1374

Contents (abridged) Part I, General considerations of treatment of fractures and dislocations. Fracture pathology Fracture healing. The diagnosis of fracture Emergency treatment of fractures. Anesthesia. Reduction of fractures. Immobilization of fractures. Rate of healing of fractures. After-treatment of fractures Open and infected fractures Complications of fractures. Aseptic necrosis of bone. Pathologic fractures. Birth fractures. Part II, Fractures and dislocations of the upper extremity scapula and clavicle Part III, Fractures and dislocations of the lower limbs. Part IV Fractures and dislocations of the trunk Part [illegible] The face and skull Index

Note (1201) A concise reference book addressed primarily to the general medical practitioner The text is concise and explicit and approximately half of the space is devoted to illustrations. Methods of fracture management which have proved successful in the authors' own experience and are available to the average general practitioner are described. Only slight reference is made to the wide assortment of gadgets and automatic reducing devices available in large hospitals. The second edition was published in 1947 Important changes were made in preparing this edition and three chapters have been extensively rewritten. Revisions were made also in the illustrated matter

KEY JOHN ALBERT AND H EARLE CONWELL

The management of fractures dislocations and sprains. Fifth edition. St. Louis The C V Mosby Company 1951 1232 p. illus. 26 cm. $17 00. 1375

Contents. Part I, Principles and general aspects General considerations. Repair of fractures. Principles of treatment of fractures. First aid in fractures and automobile injuries. Complications of fractures. Pathologic fractures. Compound (open) fractures and war wounds. Dislocations. Part II, Diagnosis and treatment of specific injuries: Fractures of the skull and brain trauma, by E. F. Fincher. Fractures of the jaws and related bones of the face, by J. B. Brown. Injuries of the spine. Fractures and dislocations of the hyoid, larynx, and tracheal cartilages. Injuries of the thorax. Injuries in the region of the shoulder girdle and shoulder. Fractures of the shaft of the humerus. Fractures in the region of the elbow Fractures of the forearm. Injuries in the region of the wrist and hand. Fractures and dislocations of the pelvis. Injuries in the region of the hip. Fractures of the shaft of the femur. Injuries in the region of the knee joint. Fractures of the shafts of the tibia and fibula. Injuries in the region of the ankle. Injuries of the foot. Index.

Note. (1205*) A comprehensive treatment of this branch of surgery It covers not only injuries to bones but injuries to the soft tissues which often accompany fractures. Instead of attempting to include all recorded procedures, the authors have selected those which they have come to consider the best as based on their own experience. The book is used as text in medical colleges and as reference book in the offices of general practitioners and surgeons. This edition represents a comprehensive revision. The book has been shortened somewhat. Nevertheless, much new textual material has been included. Among the new additions the revised treatment of compound (open) fractures and the use of medullary fixation of fractures of the femur and of the tibia should be mentioned. There are now 1195 figures.

MAGNUSON, PAUL BUDD, AND JAMES K. STACK

Fractures. Fifth edition. 323 illustrations. Philadelphia J B Lippincott Company 1949 537 p. illus. 24 cm. $7 00. 1376

Contents Fundamentals. "Textyard" treatment of fractures. Treatment of compound fractures. Pathology and repair of fractures. Anatomic mechanism and physical equipment in the reduction of fractures Equipment. Fractures and dislocations of the clavicle and the scapula. Fractures about the shoulder. Fractures and dislocations of the humerus. Fractures about the elbow. Fractures and dislocations of the forearm, the wrist and the hand. Injuries of the wrist and hand. Fracture of the ribs and costal cartilages and the sternum. Fracture of the pelvis—dislocation of the hip. Fractures of the neck of the femur. Fractures of the femur below the neck. Fractures of the femur in children—separation of lower epiphysis. Fractures of the patella. Fractures of the tibia. Fractures of bones of the leg. Fractures of the ankle and the foot. Fractures and dislocations of the spinal column. Applied anatomy of the spinal column and the spinal cord, by L. Davis. Fractures of the cervical spine. Fracture-dislocations of the spinal column, by L. Davis. Compression fractures of the spine. Fractures of the spinous, articular and transverse processes of the vertebrae. Fractures of the skull, by L. Davis. Physical therapy in the treatment of fractures, by J. S. Coulter Exercise in the treatment of fractures, by J. S. Coulter Index.

Note (1633) A standard manual addressed to general practitioners. Its purpose is to make available to the physicians who are usually the first to treat fractures the basic anatomic and physiologic knowledge and to relate this knowledge to practical techniques of diagnosis and treatment. Modern techniques of treatment are described explicitly and in adequate detail. The book is very well illustrated. In comparison to the fourth edition, the greater part of the text is unchanged However the second chapter has been added, and the chapter on compound fractures has been revised. A few changes have been made in illustrations.

SURGERY OF SPECIAL REGIONS

BOYCE, FREDERICK FITZHERBERT

Acute appendicitis and its complications. New York Oxford University Press, 1949 487 p. illus 24 cm. $8.75 1377

Contents (abridged) Embryology anatomy (including anomalies), and physiology of the appendix. Etiologic factors in acute appendicitis. The bacteriology of acute appendicitis. Morphologic aspects of acute appendicitis, by R. Halpert. The pathologic process in acute appendicitis. The clinical picture and the diagnosis of acute appendicitis

citis. The complications of acute appendicitis. The therapy of acute appendicitis and its complications. Special types of acute appendicitis—acute appendicitis in infancy and childhood—acute appendicitis in middle and late life—appendicitis during pregnancy—traumatic appendicitis. Chronic and recurrent appendicitis in relation to acute appendicitis. Factors of mortality in acute appendicitis. References. Name index. Subject index.

Note: A comprehensive monograph based chiefly on an extensive experience with surgical cases of acute appendicitis at the Charity Hospital of Louisiana at New Orleans. The author stresses the fact that the disease is far from conquered and that there is little ground for the complacency with which it is currently regarded by many members of the medical profession. He emphasizes the importance of early diagnosis, and his discussions of diagnosis and differential diagnosis run to about 80 pages. There are 81 figures and 20-page list of references.

CALLAHAN ALSTON

Surgery of the eye—injuries. Springfield, Illinois Charles C Thomas, 1950 217 p illus. (part col d) 29 cm. $12 00. 1378

Contents: Injuries of the cornea, conjunctiva and sclera. Injuries of the iris and ciliary body Injuries of the lens. Intraocular foreign bodies. Traumatic separation of the retina. Removal of the eye. Lacerations of the eyelids. Injuries of the lacrymal system. Retention of the upper lid after removal of the eye. Wiring of the canthus. Pedicle flaps. Tube pedicles. Free skin grafts. Major reconstruction of the lids. Traumatic ptosis. Reconstruction of the socket. Fractures of the orbit. Reconstruction of bony orbit. Ophthalmoscopic and ocular prostheses Appendix: Preparation. Index.

Note: A book of techniques selected on the basis of the author's experience in United States Army ophthalmic center and at the Thigpen-Cater Eye Hospital, Birmingham, Alabama. According to the author various methods were tried on similar cases at the ophthalmic center and therefore an unusual opportunity for comparative evaluation was presented. Generally speaking, in each of the book's chapters there is general discussion and then description of specific surgical technique. The word descriptions are supplemented by many illustrations, the majority of which were made from photographs of actual cases. Altogether there are 313 figures and 20 plates reproduced in color. As the title indicates, the book is limited to the repair of injuries.

COLLER, FREDERICK A. AND OTHERS

Indications for and results of splenectomy By Frederick A. Coller Alexander Blain, III, and Gould Andrews. Springfield, Illinois Charles C Thomas 1950 100 p illus 22 cm. (American lecture series. Publication no 86 A monograph in American lectures in surgery edited by Michael E DeBakey and R. Glen Spurling) $2.50 1379

Contents (abridged) Clinical material used in study Essential thrombocytopenic purpura. The hemolytic anemias Hereditary spherocytic anemia. Idiopathic acquired hemolytic anemia. Banti's syndrome. Cruveilhier-Baumgarten disease. Splenic neutropenia and panhematopenia. Hypoplastic anemia. Hypersplenism with congestive splenomegaly and atypical reticuloendothelial hyperplasia. Felty's syndrome. Disseminated lupus erythematosus with splenomegaly and leukopenia. Gaucher's disease. Cysts of the spleen. Splenomegaly of miscellaneous or unknown etiology Infectious mononucleosis with spontaneous splenic rupture. Technique of splenectomy Anesthesia. Accessory spleens. Pathologic features of the spleen. Summary Bibliography

Note A study based on 133 splenectomies performed by the authors during the period 1934–1949 The cases are classified under the headings given above and the experience in each group is summarized. In addition, the authors present the current concepts of normal physiology of the spleen, the rationale for splenectomy the various disorders of the spleen, etc. There are 16 illustrations and selected bibliography The authors are members of the Departments of Surgery and Medicine of the Medical School of the University of Michigan.

EVANS JOSEPH PATRICK

Acute head injury Springfield, Illinois Charles C Thomas, 1950 116 p illus. 22 cm. (American lecture series. Publication no 60 A monograph in American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling. Neurosurgical division editor Barnes Woodhall) $2 50 1380

Contents. Introduction. Scalp injuries. Skull fractures. Meningeal hemorrhage. Cerebral trauma. Bibliography References.

Note: A practical account of the effects and the treatment of head injuries. Gun shot wounds are not included, and the other classes of injuries are considered in four groups as indicated by the chapter titles. Under each heading, surgical treatments are the main topic but other matters such as diagnosis, anesthesia, and treatment of the scalp are discussed also. Several case studies are included in each group. A good bibliography and 24 clear figures of special cases are included.

GURDJIAN ELISHA STEPHENS, AND JOHN E WEBSTER

Operative neurosurgery with emphasis on procedures in trauma. Baltimore The Williams & Wilkins Company 1952 422 p. illus. 26 cm. $10 00 1381

Contents: Head Craniotomy—historical. Preliminary considerations. Supratentorial and vascular lesions. Posterior fossa and cranial nerves. Head injury Spine: Historical notes on surgery of the spinal cord. Certain points about the vertebral column and vertebral articulations The spinal cord. Neurosurgical procedures. Autonomic nervous system Historical considerations. Anatomy and physiology Surgical management. Neurosurgical procedures. Peripheral nervous system: Historical considerations Anatomy, physiology and pathology Principles in surgical technique. Diagnosis of peripheral nerve lesions. Rehabilitation. Neurosurgical procedures. Index.

Note Throughout most of this volume there is plate of illustrations on right hand page while on the facing left-hand page there is description and discussion of the techniques illustrated. Altogether there are 129 plates and most of these contain several drawings. Only techniques which have won general acceptance are represented. Extensive bibliographies of papers and other literature pertaining not only to the techniques illustrated but to others are included. The book is suitable for use as medical college text and also as reference volume for surgeons who are not specialists in neurosurgery but occasionally perform neurological operations, especially in the repair of wounds.

HORRAX GILBERT

Neurosurgery an historical sketch. Springfield Illinois Charles C Thomas 1952 135 p illus. 22 cm. (American lecture series. Publication no 117 A monograph in American lectures in surgery edited by Michael E. De Bakey and R. Glen Spurling. Neurosurgical Division Barnes Woodhall, editor) $3 75 1382

Contents: Introduction. Prehistoric and Egyptian eras. The Greek or Hippocratic and Galenic period (400 B.C. to circa 300 A.D.) The medieval period (circa 300 to 1500 A.D.) The Renaissance (circa 1500 to 1700 A.D.) The pre-Listerian period (circa 1700 to 1846) The pre-Horsley period (1846 to 1890 A.D.) The era of neurosurgery as surgical specialty (circa 1890 A.D. and to the present day) Conclusion. Bibliography

Note: This outline history can fairly be designated as neurosurgeon's history of neurosurgery The space is almost evenly divided between accounts of techniques and outstanding developments up to 1890 and the highlights of developments since that year. There are forty figures divided among portraits of great neurosurgeons, pictures of surgical instruments, views of operating theaters, and diagrams of operative techniques. There are 181 references in the bibliography

JOHNSON JULIAN AND CHARLES K. KIRBY

Surgery of the chest a handbook of operative surgery Illustrated by Edna Hill. Chicago The Year Book Publishers, Inc. 1952 387 p. illus. 22 cm. $9.00 1383

Contents: Introductory considerations. The management of chest injuries. Operations for empyema and lung abscess. Including Surgical anatomy of the lungs. Pneumonectomy Lobectomy Segmental

resection. Special problems arising during major thoracic operations. Surgery of the esophagus. Surgery of the heart and great vessels. The surgery of pulmonary tuberculosis. Miscellaneous operations. Index.

Note. A compact atlas which contains 41 plates [illegible] clear drawings of operative techniques including some used in diagnosis. The authors have selected techniques of clearly established value and they have described them for general surgeons who are beginners in thoracic surgery or who only occasionally perform operations in this region. The drawings are supplemented by both general and specific discussion. Each plate is accompanied by at least one page of discussion. The authors ar[e] members of the faculty of the School of Medicine of the University of Pennsylvania.

KIRBY, DANIEL B

Surgery of cataract. 339 illustrations, including 52 subjects on 21 color plates. Philadelphia J B Lippincott Company 1950 695 p. illus. (part col d) 26 cm. $30 00 1384

Contents (abridged) Part one, The development of cataract surgery: *The early history of cataract surgery.* The development of cataract extraction. The thesis and the organization of the book. Basic sciences applied to cataract surgery by L. B. Rone. Preoperative examination of the eye and prognosis for restoration of vision. Standards for judging the progress or the arrest of cataract. The nonsurgical treatment of cataract. Classification of cataract. Part two, Preparation for cataract surgery. Part three, Present-day cataract surgery: The removal of soft cataract. Extracapsular extraction of cataract. Intracapsular extraction of cataract. The removal of luxated and subluxated lenses. The prevention of complications during and after cataract extraction—also their handling should they arise. Traumatic cataract. After-cataract. Part four The correction of aphakia. The use of glasses in aphakia. Part five, Results obtained in cataract surgery. Index.

Note. A comprehensive treatment in which the historical background, the pertinent anatomy and embryology and many other related topics are covered in addition to the surgical techniques. Operative methods a[re] not restricted to those [wh]ich the author uses but include also procedures of other ophthalmologic surgeons. The book is intended for use as [a] text in graduate courses offered to medical college graduates and as [a] reference book for graduate surgeons who are beginning to operate in this specialty. The author is Professor of Ophthalmology in the College of Medicine of New York University

LYONS WILLIAM REGINALD AND BARNES WOODHALL

Atlas of peripheral nerve injuries. Philadelphia W B Saunders Company 1949 339 p. illus. (part col d) 34 cm. $16 00 1385

Content[s] Introduction. The peripheral nerve. Completely severed nerves. Traumatic nerve lesions in continuity. Nerve sutures. Nerve grafts. Addendum. Bibliography. Index.

Note. This work is based on [a] very extensive experience with peripheral nerve injuries among U. S. A. soldiers in World War II. The greater part of the space in the book is occupied by the 1[illegible] plates, most of which contain reproductions of several photographs or macrophotographs. Each of the illustrations is described and discussed in short legends on the facing page. The book is of primary interest to neurosurgeons, both those with civilian and those with military practices

METTLER, FREDERICK ALBERT editor

Psychosurgical problems. By the Columbia Greystone Associates, Second Group. New York The Blakiston Company 1952 357 p. 24 cm. $7 00 1386

Contents: Nature of the project, by F A Mettler and M. A Carry. Hospital management and social evaluation, by M. A. Carry and others. Surgical procedures, by J L. Pool and others. General medical condition, including hematological and physiologic findings, by G. H. Glaser and others. Neurology by W Cavenes and H. H. Merritt. Olfaction, by R. M [illegible] Vestibular function and [illegible], by N [illegible] Klose. The design of the psychologic investigation, by J. Zubin. Psychometric studies, by D C Shaer and M. Shuttleworth. Complex mental functions—memory learning, mental set, and perceptual tasks, by R. D North and others. Attitude evaluation, by M. Garrison, Jr and T D Olin. Time-sampling study of behavior, by K. F Kinder and D Williamson. Psychophysiology by H. E. King and J Clausen. Discussion of psychologic investigations, by C. Landis and J Zubin. Report of the psychiatric discipline, by P H. Hoch and others. Conclusions, by F A. Mettler and C. Landis. The original Columbia-Greystone patients two years after operation, by J J. Weber. Bibliography Index.

Note. A companion work to Mettler Fred A., editor, *Problems of the human brain, selective partial ablation of the frontal cortex,* described above. It is [a] detailed study of the effects of several psychosurgical procedures other than lobotomy and topectomy "Eighteen patients were operated on as follows. In 12 cases bilateral ligation of the superior cerebral veins was carried out [illegible] In 2 cases bilateral surgical thalamotomy was performed [illegible] In 2 cases thermocoagulation of the cerebral cortex in the rostral portion of each frontal lobe was done, while in the 2 remaining cases topectomy procedure was carried out." Together the two books present the results of [a] pioneering application of the techniques of operations research analysis to the study of [a] complex problem in therapy

OVERHOLT, RICHARD HOLLIS, AND LAZARO LANGER

The technique of pulmonary resection. Revised second printing. Springfield, Illinois Charles C Thomas, 1951 216 p. illus. (part col d) 24 cm. $9.50. 1387

Contents: Pre-operative preparation. Operative preliminaries. General considerations pertaining to all resections. Intrapulmonary and hilar surgical anatomy. Specific resections. Post-resection management and complications. Post-resection thoracoplasty. Afterword. Bibliography. Index.

Note. A well-rounded treatise for students and general surgeons preparing for thoracic surgery. The techniques described are those actually used by the [au]thors, including their new technique for segmental excision which was first presented in May 1946 before the American Association for Thoracic Surgery. Pathology, diagnosis and other topics not directly related to surgery are not covered. Instead, the book is limited to those topics of direct concern to the surgeon. The style is direct and explicit and the illustrations are of excellent quality. In the "afterword," developments between January 1947 and January 1951 are reviewed concisely

PRATT GERALD HILLARY

Surgical management of vascular diseases. 181 illustrations. Philadelphia Lea & Febiger 1949 496 p. illus. 24 cm. o p. 1388

Contents (abridged) Section I, Nomenclature and case history. Section II, The arterial system. Occlusive arterial diseases. Amputation. Vasospastic diseases or syndromes. Arterial collateral circulation. Injuries to arteries. Arteriovenous fistula or aneurysm. Arterial aneurysms. Arterial thrombosis. Arterial embolism. Surgical management of acute arterial occlusion. Mesenteric thrombosis. Neurovascular lesions of the upper extremity. Interruption of the sympathetic system. Hypertension. Arteritis. Section III, The venous system. Varicose veins. Arterial varices. Hemangiomata in the genital tract. Pathologic venous clotting. Anticoagulant therapy. Section IV, The lymphatic system. Section [illegible] Surgery of the heart. Section VI, Special technics: Angiography and cardiovascular catheterization. Skin grafting. Surgical treatment of vascular ulcers. Surgical treatment of esophageal varices. Abnormal artery and [illegible] [illegible] Vascular diseases and trauma. Index.

Note. In this work the emphasis is on the surgical therapies developed in recent years and on the cardiovascular diseases which are common enough to be encountered by general surgeons and general medical practitioners. The style is concise, but both diseases and therapies are described explicitly. Extensive but not comprehensive bibliographies are included in the chapters. The author [is a] member of the faculty of the Medical School of New York University and Chief of the Vascular Clinic of Saint Vincent's Hospital, City of New York.

ROEN, PHILIP R.

Atlas of genito-urinary surgery. Introduction by Clarence G Bandler. Illustrations by Charles Stern. New York Appleton-Century-Crofts Inc., 1951 325 p. illus. 25 cm. $10.00. 1389

Contents (abridged) General principles of urologic surgery. Operations on the kidney. Operations on the adrenal gland. Operations on the ureter. Operations on the bladder. Operations on the prostate. Operations on the scrotum and testicle. Operations on the urethra. Operations on the penis. Index.

Note This book is organized so that the right-hand pages contain reproductions of drawings of standard surgical techniques, while the facing left-hand pages contain concise discussions of the drawings and the techniques illustrated by them. In most instances the drawings on one page illustrate all of the surgical steps in particular operation, but in other instances the author has used several successive pages. Drawings are original and are reproduced in adequately large scale. The book is designed for medical college students and for general surgeons who are not specialists in urological surgery but who must nevertheless occasionally perform urological operations. The author is member of the New York Post-Graduate Medical School and the book is based on his long experience in practicing and teaching urological surgery

SELETZ, EMIL

Surgery of peripheral nerves. Art editor Tom Jones. Springfield Illinois Charles C Thomas, 1951 185 p. illus. 29 cm. $11.50 1390

Contents: Principles and technique of nerve surgery The hand. The median nerve. Incisions in the hand and wrist for exposure of median and ulnar nerves. The ulnar nerve. The median and ulnar nerve combined. The radial nerve. The axillary nerve. The musculocutaneous nerve. The scapular nerves. The anterior thoracic (pectoral) nerves. The long thoracic nerve. The brachial plexus. The femoral nerve. The sciatic nerve. The foot. The peroneal nerve. The tibial nerve. Injuries to the cranial nerves. Index.

Note: A detailed, fully illustrated presentation of surgical techniques that were largely developed by the author while in the surgical service of the United States Surgeon General's Office. According to statement in the introduction, he personally observed and followed the progress of 2017 peripheral nerv injuries while he was in service at Wakeman Hospital Center. More than half of the space is devoted to illustrations—reproductions of both drawings and photographs. A considerable number of the illustrations are paired in order to show examples of correct and incorrect incisions. The author is now member of the faculty of the School of Medicine of the University of Southern California.

SWEET RICHARD HARWOOD

Thoracic surgery Illustrations by Jorge Rodriguez Arroyo Philadelphia W B Saunders Company 1950 345 p. illus. (part col d) 25 cm. $10.00. 1391

Contents: Surgical anatomy of the thorax. General technical considerations. Thoracic incisions. Operations on the thoracic wall. Operations concerning the pleural cavity Operations on the lung. Operations within the mediastinum. Operations on the esophagus. Abdominal operations performed through thoracic incisions. Surgery of the diaphragm. Index.

Note: A manual of established techniques. The book is addressed primarily to general surgeons; nevertheless, each operation included is described in full detail and the verbal descriptions are supplemented by clear drawings, which are based mainly on sketches made of actual operations In addition to the full discussions, there is included step-by-step outline of procedure for operations on the lungs. The author is member of the faculty of the Medical School of Harvard University

TARLOV ISADORE MAX

Plasma clot suture of peripheral nerves and nerve roots—rationale and technique. Springfield, Illinois Charles C Thomas, 1950 116 p. illus. 24 cm. $6.25 1392

Contents: The need for an improved nerve suture technique. The basis for selecting the most suitable type of plasma for nerve suture. Preparation of nerve stumps for suture. Necessity for using mold to suture nerves with clot. Tantalum wire tension sutures combined with plasma clot. Suture of the nerve stumps by plasma clot. Suture of nerve grafts. Suture of the cauda equina nerve roots. The place of plasma clot suture in repertory of the neurosurgeon. Bibliography Index.

Note Plasma clot suture techniques are explicitly described in this work. The illustrations include pictures of the latex mold and other instruments. The bibliography includes 94 references. The author, pioneer worker in the development of plasma clot suture, is Associate Professor of Neurosurgery in the New York Medical College.

VER BRUGGHEN, ADRIEN

Neurosurgery in general practice. Springfield Illinois Charles C Thomas, 1952 665 p. illus. 26 cm. $14.00 1393

Contents: Head injuries. Injury to the cranial bones. Extradural hemorrhage. Chronic subdural hematoma. Head injuries in children. Spinal cord injuries. Peripheral nerve injuries. Herniated nucleus pulposus. Scalenus anticus syndrome and cervical rib. Trigeminal neuralgia. Intractable pain. Diseases of the spinal cord. Spinal cord tumors. Increased intracranial pressure. Cerebral tumors. Cerebellar tumors in children. Pituitary tumors. Suppurative diseases of the central nervous system. Cerebral vascular diseases. Coma. The sympathetic nervous system. Congenital anomalies. Miscellaneous entities. Spinal puncture. X-ray diagnosis. Neurological examination. Bibliography Index.

Note: A practical book on the injuries and diseases of the nervous system which are likely to be encountered in general practice. In addition, few rare conditions, for instance massive extrusions of lumbar intervertebral discs, are included because of the importance of early diagnosis. The book is frankly for the general practitioner and is not intended either for the medical college student or for neurosurgeons. It is written in clear style and includes considerable number of illustrated case histories. There is particular emphasis on the symptoms, signs, and diagnostic features of the various common neurological disorders. The author is member of the faculty of the College of Medicine of the University of Illinois.

WALKER, ARTHUR EARL, editor

A history of neurological surgery Editorial committee Robert E. Green, Herbert C. Johnson, and W Eugene Stern. Baltimore The Williams & Wilkins Company 1951. 583 p. illus. 26 cm. $12 00. 1394

Contents (abridged) Prologue, by D. C. O'Connor and A. E. Walker. Diagnostic procedures, by A. E. Walker. Techniques of cranial surgery by R. E. Green and W E. Stern. Techniques of intracranial surgery by R. E. Green and W E. Stern. Surgery of the posterior fossa, by R. E. Green. Surgery of the third ventricle, by A. F Thomson. Surgery of the hypophysis, by H. C. Johnson. Surgery of the craniocerebral infections, by W E. Stern. Surgery of craniocerebral trauma, by A. E. Walker. Surgery of cerebral vascular anomalies, by H. C. Johnson. Psychosurgery by R. G. Fisher. Surgery of epilepsy and motor disorders, by C. Marshall. Surgery for pain, by J. V Crawford and A. E. Walker. Surgery of the congenital anomalies, by R. G. Fisher. Surgery of the spinal cord and vertebral column, by J. W Markham Surgery of the peripheral nerves, by K. M. Browne. Surgery of the autonomic nervous system, by W J Atkinson. Bibliography Index.

Note: An informal but rather comprehensive account of major surgical specialty The authors are members of the Division of Neurological Surgery of the Johns Hopkins University and the material was first presented at seminars at that university The various chapters are based mainly on the published liter ure and number of the authors have devoted good deal of heir space to the antique and curious. However, the historical accuracy of the work was assured by submitting the manuscript to authorities on medical history before publication. Included but not indicated in the contents above are short biographical sketches of fourteen persons who made major contributions to the development of neurological surgery The bibliography of nearly 2 400 references is valuable feature. There are 152 figures, most of which illustrate surgical techniques of historical interest.

WELCH CLAUDE EMERSON

Surgery of the stomach & duodenum a handbook of operative surgery Illustrated by Muriel McLatchie Miller Chicago The Year Book Publishers Inc. 1951 349 p. illus. 22 cm. $8.50. 1395

Contents (abridged) Anatomy of stomach and duodenum. Pre- and postoperative treatment. Anesthesia. Incisions and closure. Congenital abnormalities. Perforating wounds. Gastrotomy and duodenotomy Gastrostomy Diverticula of the stomach and duodenum. Hiatus hernia. Pyloroplasty and cardioplasty Side-to-side gastroenterostomy. Duodenal and gastric ulcer. Gastric cancer. Tumors of the duodenum. Complications of gastric resection. Anastomosis with special clamps. Duodenal fistula. Appendixes: Normal laboratory values—postoperative data. Bibliography Index.

Note: Essentially an atlas, this book consists chiefly of 79 full-page plates, most of which contain reproductions of several drawings. The drawings are accompanied on facing pages by short specific descriptions and discussions. They have been made from original sketches based chiefly on operations at Massachusetts General Hospital. The work is potentially of interest to surgeons who are beginning to work in this specialty and to general surgeons who do not specialize in it but who do occasionally perform a stomach or duodenum operation. *The author is a member of the faculty of* Harvard Medical School.

WIENER, MEYER, AND HAROLD G SCHEIE

Surgery of the eye. Third revised edition. New York Grune & Stratton 1952 449 p illus. 26 cm. $15 00 1396

Contents: Basic technics in ophthalmic surgery Anesthesia. Preoperative and postoperative care. Cataract surgery Glaucoma surgery Retinal detachment. Intraocular foreign bodies. Operations on the cornea. Removal of eye. Operations on the conjunctiva. Operations on the lids and socket. Ptosis. Operations on the muscles of the eye. Operations on the tear apparatus. Index.

Note: A medical college textbook and reference manual for graduate surgeons. The techniques described have been critically selected by the authors on the basis of their experience and judgment. Although no attempt was made to present all known techniques, those which are covered are described explicitly and in full detail. The descriptions are supplemented by nearly 450 drawings of high quality The second edition was published in 1949 For the third edition many changes were made in both the text and illustrations. Several chapters were completely rewritten and sections describing new operative procedures have been added to others. Many new illustrations were added. There is no bibliography

ORTHOPEDICS

BANCROFT FREDERIC WOLCOTT, editor

Surgical treatment of the motor-skeletal system. Supervising editor Frederic W Bancroft associate editor Henry C. Marble. Second edition with 1049 illustrations and 3 color plates. Philadelphia J B Lippincott Company 1951 2 v illus. (part col d) 26 cm. $25.00 1397

Contents Part one Deformities: Congenital anomalies of upper extremity and shoulder girdle, by F R. Ober Congenital deformities of the spine, by J. A. Freiberg. Congenital deformities of lower extremities, by J H. Kite. Congenital dislocation of hip, by A. H. Brewster. Acquired and static deformities of lower extremities, by R. D W Hauser Surgical treatment of scoliosis, by W. H. von Lackum. Paralytic disorders. Anterior poliomyelitis, by M. Cleveland. Treatment of paralytic disorders exclusive of poliomyelitis, by W M. Phelps. Affections of back, muscles, fasciae, tendons, bursae and ganglia. Low-back pain, by J. A. Freiberg. Affections of muscles, fasciae, and tendons (except tumors and trauma) by C. R. Murray Affections of bursae and ganglia, by G. A. Caldwell. New growths: Treatment of bone tumors, by B. L. Coley Treatment of tumors of joints, by B. L. Coley and J C. Pierson. Tumors of muscle, fasciae, and tendons, by C. R. Murray Diseases of bones and joints: Tuberculosis of bones and joints, by F D Dickson. Joint infection and arthritis (except tuberculosis) by J. A. Key Hematogenous osteomyelitis, by F Beekman. Miscellaneous bone diseases and infection, by C. R. Murray Nontraumatic affections of epiphyses, by R. K. Ghormley Amputations. Amputations, disarticulations, and prostheses, by F C. Coleman. Amputations in diabetes and vascular disease, by L. S. McKittrick and T C. Pratt. Kineplastic amputations, by H. H. Kessler Part two Bone repair The physiology of bone repair by M. R. Urist. Fractures and dislocations in general: General discussion of fractures, dislocations, and other trauma, by C. R. Murray Compound fractures, by W Darrach and B. B. Stinson. Fractures and dislocations of face: Fractures of facial bones, by G. R. Brighton. Fractures of jaws, by F X. McCaffery Fractures and dislocations of trunk Injuries to the spine, by A. G. Davis and M. J Bellinger Treatment of patients paralyzed after cord injury, by H. S. Talbot. Treatment of fractures of pelvis, sacrum, and coccyx, by F B. Davis. Fractures and dislocations of upper extremities: Injury to shoulder girdle, by H. C. Marble. Fractures of humerus, by J. A. Caldwell. Fractures and dislocations involving elbow joint, by F M Smith. Treatment of fractures of bones of forearm, by F B Magnuson. Fractures and dislocations of carpus, by D. W G. Murray Fractures and dislocations of metacarpals and phalanges, by J. F North. Fractures and dislocations of lower extremities: Hip fractures, by L. Thornton. Fractures of shaft of femur, by R. R. Lepiak and W R. Lee. Fractures and dislocations involving knee joint, by R. A. Griswold and C. F Ward. Internal derangements of knee joint, by F K. Stinchfield and W U. Cuthbert. Fractures of shafts of tibia and fibula, by R. D. Carothers. Fractures of ankle and foot, by O. J. Hermann. Sprains, sprain-fractures, muscle and tendon injuries: Treatment of sprains, including marginal joint fractures, by P H. Harmon. Contusions, strains, sprains and avulsions of muscles, tendons and ligaments, by T A. Quigley Birth injuries of motor-skeletal system: Skeletal birth injuries, by K. D. Truesdell. Bibliographic index. Subject index.

Note A detailed description of currently useful surgical techniques. Except in a few of the chapters, there is little discussion of etiology or diagnosis or of other methods of therapy; instead the space is devoted to surgery The text is explicit and detailed and liberal use has been made of illustrations. The 1049 illustrations mentioned in the title refer to figures. Many of the figures contain several illustrations. The first edition was published in 1941. In preparing this edition most of the chapters were revised to some extent and at least one was completely rewritten.

BURMAN, MICHEL, AND SAMUEL E. SINBERG

Injury of the xiphoid. New York Columbia University Press 1952 92 p. illus. 23 cm. $3 50. 1398

Contents: Apparent and real xiphoiditis. The epigastric syndrome and the sometimes malformed but unbroken xiphoid. The referred pain of secondary xiphoidalgia. Primary and secondary disease of the xiphoid. On direct injury to the xiphoid. On the rigid xiphoid and its fracture. Analytic summary of symptoms and signs in the various groups of disability Bibliography Index.

Note A monograph based on the literature and on "at least 75 to 100" cases of xiphoid injury and disease encountered by the authors in their own practice. Numerous cases are concisely described. The illustrations include reproductions of 15 roentgenograms.

COLONNA, PAUL C.

Regional orthopedic surgery Philadelphia. W B Saunders Company 1950. 706 p. illus. 25 cm. $11 50. 1399

Contents: Physiology of the bone and joints. Orthopedic examination—muscle function testing charts. General pathology of bones and joints. The spine and thorax. The shoulder. The arm. The elbow. The forearm. The wrist and hand. The hip and pelvis and. The thigh. The knee. The leg. The ankle and foot. Neuromuscular disabilities. Tumors of bone. Principles of apparatus. Physical medicine as applied to orthopedic surgery Index.

Note A textbook designed for use by upperclass undergraduate students and graduate students in medical colleges. Although organized by region of the body and with the emphasis on common clinical conditions, the book is in effect a comprehensive survey that includes some information on even the uncommon diseases such as osteomalacia of the long bones. Diagnosis by physical techniques and techniques of treatment are emphasized. There are 411 illustrations and most of the chapters are supplemented by bibliographies of substantial length. The author is Professor of Orthopedic Surgery in the Medical School of the University of Pennsylvania.

DANIEL EARLE HORACE

Amputation prosthetic service. Foreword by Howard A. Rusk. Baltimore The Williams & Wilkins Company 1950. 327 p. illus. 24 cm. $7.00. 1400

Contents (abridged) Glossary of prosthetic terms. Chapter: Amputation procedures. Psychological treatment of the amputee. Care of stump. Limb selection and construction. Leg specifications. Suction socket. Artificial limbs for children. Limb measurements. Prosthetic service. Amputee clinics. Arm selection. Plastic cosmetic gloves and hands. Employment of the amputee. Special clothing for arm and leg amputees. Limb shop data. Government research and development of artificial limbs. List of limb and brace makers. Appendix. Conclusion. Index.

Note A practical manual designed for use by all who are concerned with amputation cases from surgeons to artificial limb-makers. The complete care of the patient including adequate training in the use of artificial limbs is stressed. The book is also outstanding for the wide range of information on details of artificial limbs, for its stress on the mechanisms of artificial hands. The buyers' guide and directory of limb and brace makers included at the end of the book

but only U. S. A. firms. The author is Director of Prosthetic Service in the Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center.

HART VERNON L.

Congenital dysplasia of the hip joint and sequelae (in the newborn and early postnatal life) Springfield, Illinois Charles C Thomas, 1952 187 p illus. 22 cm. (American lecture series publication number 107 A monograph in American lectures in surgery, division of orthopedic surgery *editor* Robert P Kelly) $5.50. 1401

Contents: Introduction. The background. Definition. Etiology. Pathogenesis. Clinical findings. The "sign of the jerk." Rotational attitude of the extremities. Pathological dislocation. Roentgen features. Differential diagnosis. Treatment. Summary. References.

Note: The fact that this work was originally prepared for delivery as lectures probably explains its brevity. In effect it is thorough discussion of not only the historical aspects of diagnostic and corrective techniques, but also it contains considerable discussion of the relations between congenital dysplasia of the hip joint and hip disorders in later life. There are 83 figures and bibliography of 141 references. It is addressed to pediatricians, roentgenologists, and general practitioners as well as to orthopedic surgeons.

HASS JULIUS

Congenital dislocation of the hip Springfield, Illinois Charles C Thomas 1951. 405 p. illus. 25 cm. $13 00 1402

Contents: History. Frequency and occurrence. Classification and nomenclature. Pathology. Etiology. Symptoms. Course. Prognosis. Diagnosis. Prophylaxis. Closed reduction. Open reduction. Reconstruction (shelf) operation. Palliative procedures. Summary of treatment. Treatment of the atypical congenital dislocations. Conclusion. Bibliography. Author index. Subject index.

Note: All aspects of congenital dislocation of the hip that are of interest in orthopedic surgery are covered in this substantial monograph. However, the history and other background topics are treated briefly whereas such aspects as pathology are treated at length. The chapter on closed reduction, for example, runs to 87 pages and contains 18 illustrations. There are 134 illustrations in the whole and 70-page bibliography. The author, who now practices in New York City, was associated with Dr. Adolph Lorenz in Vienna for many years.

HOWORTH MARION BECKETT

A textbook of orthopedics with a section on neurology in orthopedics By M. Beckett Howorth, in association with Fritz J Cramer A. Wilbur Duryee, Donovan J McCune, J William Littler and Walter A. Thompson. Philadelphia W B Saunders Company 1952 1110 p. illus. 26 cm. $16.00 1403

Contents (abridged) Section I. Introduction and basic principles of orthopedic practice. *History of orthopedics. Anatomy and physiology of the musculoskeletal system.* Examination and diagnosis. Treatment. Section II, Regional orthopedics. The spine. Shoulder and shoulder girdle. The elbow. The hand and wrist. The hip. The knee. Foot and shoes. Section III, Orthopedic disorders. Congenital deformities. Orthopedic infections. Orthopedic conditions due to trauma. Arthritis. Vascular diseases. Metabolic and endocrine diseases. Tumors of the spine and extremities. Orthopedic diseases of unknown etiology. Section IV. Neurology in relation to orthopedic practice: History, physical examination and diagnosis. Clinical syndromes of neuromuscular and neural disorders. Lesions of peripheral nerves. Peripheral nerve syndromes. Congenital maldevelopment of the neurons and skeleton. Infections. Diseases due to trauma. Tumors affecting the motor and coordinative functions. Diseases of undetermined origin. Index.

Note: Although textbook and introductory to the subject, this work combines broad coverage with wide range of information about specific disorders and treatments. The importance of understanding the basic anatomy is stressed. Most of the space has been given necessarily to the discussion of diseases. There are 443 figures, and short lists of references are attached to most of the chapters. The index is exceptionally full. The author is Professor of Orthopedic Surgery in New York University Post-Graduate Medical School.

KENDALL, HENRY OTIS, AND FLORENCE P KENDALL

Muscles testing and function. Baltimore The Williams & Wilkins Company 1949 278 p. illus. 29 cm. $7.50 1404

Contents: Fundamental principles in manual muscle testing. Nerve and muscle charts for recording muscle examinations. Upper extremity and scapular muscles. Lower extremity muscles. Trunk muscles. Facial, neck, and throat muscles. Appendix—muscle origins and insertions. Index.

Note. Modern techniques for testing the response and strength of groups of muscles and major individual muscles are explicitly described in this work. The word descriptions are supplemented by 142 figures, the majority of which are reproductions of photographs. The book is based on an extensive experience in the Physical Therapy Department of the Children's Hospital School in Baltimore. It is organized so that it can be used both as textbook in classes and as reference manual for orthopedic surgeons, physical therapists, etc.

KLEINBERG, SAMUEL

Scoliosis pathology etiology and treatment. Baltimore The Williams & Wilkins Company 1951 286 p. illus. 24 cm. $7.50 1405

Contents (abridged) Part I, Anatomy pathology, etiology: Anatomy embryology physiology Classification and pathology Etiology History symptomatology examination, records. Part II, Treatment. Preventive treatment. Treatment of (functional and transitional) scoliosis. Treatment of structural scoliosis. Gymnastic exercises. Treatment by forcible correction. Surgery in structural scoliosis. References. Index.

Note. Although considerable amount of background is included, this book is essentially practical manual of the modern treatment of scoliosis. All currently used methods of treatment from exercises to surgery are described in detail. Preventive therapy also is discussed. There are 161 figures and bibliography of 107 references. The work is of interest not only to orthopedists but also to general practitioners of medicine. It supersedes another work on the same subject written by the author and published quarter of century earlier.

LEWIN PHILIP

The knee and related structures injuries—deformities—diseases—disabilities. Illustrated with 333 figures and 2 colored plates. Philadelphia Lea & Febiger 1952 illus. (part col'd) 914 p. 24 cm. $16.00 1406

Contents (abridged) The anatomy of the knee. Physiology and biomechanics of the knee joint. Etiologic factors in knee disturbances. Physical examination of the knee. Roentgen ray findings in disorders of the knee. The diagnosis of disorders of the knee. Prognosis in disorders of the knee. Neurosis in knee disorders. Nonoperative treatment of knee disturbances. Operative treatment of knee disorders. Internal derangements of the knee. Loose bodies in the knee joint—bursae. The ligaments of the knee. External derangements of the knee. The flexor apparatus of the knee and its disorders. Deformities of the knee. Industrial knee injuries. Fractures in and around the knee joint. Dislocations of the knee joint. Knee disorders in the military service. Tuberculosis of the knee. Syphilis of the knee. Osteomyelitis involving the knee region. The antibiotics in infections of the knee. Arthritis of the knee. Operations for the residual effects of anterior poliomyelitis. Spastic paralysis involving the knee. Circulatory and vascular disturbances of the knee. Metabolic and endocrine disorders that affect the knee. Neoplastic tumors of the knee. Equalization of length of lower extremities. Appendix. Bibliography. Index.

Note: A comprehensive treatise in which the author has endeavored to incorporate all of the currently valid knowledge pertinent to disorders of the knee and to medical and surgical methods of treating them. Altogether there are 44 chapters and long appendix. The latter includes discussions of such aspects of the subject as the embryology of the knee and of lesser subtopics such as leg pains in children. The work is based both on the author's thirty-five years of editing abstracts of the world's literature on orthopedic surgery

and his long experience as teacher and orthopedic surgeon. The bibliography is international in scope.

LUCK JAMES VERNON

Bone and joint diseases pathology correlated with roentgenological and clinical features Springfield, Illinois Charles C Thomas 1950 614 p illus. 26 cm. $18 50 1407

Contents The normal skeletal system. Acute infections of bones and joints. Chronic osteomyelitis. Aseptic osseous necrosis. Fractures. Chronic arthritis. Neuro-arthropathies. Skeletal manifestations of metabolic disorders. Osteitis fibrosa. Paget's disease. Melorheostosis. Hypertrophic osteoarthropathy. Skeletal manifestations of endocrine disorders. Congenital defective skeletal ossification. Extraskeletal calcification and ossification. Osseous lesions in the reticulo-endotheliosis. Bone changes produced by lead, bismuth, phosphorus, radium, and fluorine. Benign tumors of bones. Malignant primary tumors of bones. Secondary involvement of the bones by malignant disease. Tumors of joints. Index.

Note. Correlation of pathology with clinical manifestations and with the interpretation of roentgenograms is the main theme of this comprehensive work. The subheadings in a typical chapter—that on Paget disease—will serve to illustrate the approach historical, skeletal distribution, laboratory findings, etiology complications, roentgenologic correlations, clinical correlation, references. Although organized as a textbook the book is also well adapted because of its full coverage and detailed indexes to reference use in personal and institutional libraries. There are more than 450 figures, including several in color and extensive lists of references to the literature.

ORR, HIRAM WINNETT

On the contributions of Hugh Owen Thomas of Liverpool, Sir Robert Jones of Liverpool and London John Ridlon M.D of New York and Chicago, to modern orthopedic surgery Springfield Illinois Charles C Thomas 1949 253 p illus. 22 cm. $4.50 1408

Contents Biographies: Hugh Owen Thomas. Sir Robert Jones. John Ridlon. A review of past and present methods in surgical practice. Rest as the fundamental factor in the relief of pain and the arrest and cure of inflammation. Methods of securing rest in fractures and in articular disease. Diagnosis and treatment of hip disease. Disease of the knee joint, foot, and ankle. The prevention and cure of disability and deformity in fractures. Comments upon methods still in use in orthopedic practice, from the writings of H. O. Thomas, Sir Robert Jones, and Dr John Ridlon. Supplement: Ridlon and his share in making orthopedic surgery by Arthur Steindler. *Annotated bibliography*

Note The scope of this contribution to the history of orthopedic surgery is indicated by the title and table of contents. The biographical sketches at the beginning of the book are short, but in the chapters which follow there is much additional information on the influence of these men and many quotations from their writings. There are twenty figures, most of which show early orthopedic appliances.

SHANDS ALFRED RIVES JR.

Handbook of orthopaedic surgery In collaboration with Richard Beverly Raney Illustrated by Jack Bonacker Wilson and others. Fourth edition. St. Louis The C V Mosby Company 1952 644 p illus. 23 cm. $8 00 1409

Contents (abridged) Congenital deformities. Affections of growing bone. Affections of adult bone. Infections of bone (exclusive of tuberculosis). Infections of joints (exclusive of tuberculosis). Tuberculosis of bones and joints: the spine and pelvis—the extremities. Chronic arthritis. Neuromuscular disabilities—infantile paralysis. Neuromuscular disabilities (exclusive of infantile paralysis). Involvement of the brain and spinal cord—involvement of peripheral nerves and of muscles. Tumors. Fracture deformities. Body mechanics and physical therapy. Affections of the spine and thorax. Affections of the low back. Affections of the hip. Affections of the knee. Affections of the ankle and foot. Affections of the neck and shoulders. Affections of the elbow, wrist, hand, and fingers. Bibliography. Index.

Note: (1937) A standard work used both as a text in medical colleges and as a reference book in the office libraries of general practitioners. It is not an exhaustive treatise but all of the common conditions are covered. The third edition was published in 1948. The fourth edition was prepared after consultation with the heads of departments of orthopedics in the medical schools of the United States of America. Although no major change was made in the text, numerous small revisions were made and ten sections were added on topics not included in the third edition. More extensive changes were made in the third edition. More extensive changes were made in the illustrative matter. These are described by the author thus: "There are one hundred six new illustrations as follows: seventy-one new roentgenograms, twenty new drawings, two retouched drawings, two replacements of drawings from the first edition, and three copies of drawings from other publications; forty of the illustrations of the third edition have been deleted, most of which were drawings from roentgenograms.

STEINDLER ARTHUR

Post-graduate lectures on orthopedic diagnosis and indications. Springfield Ill. Charles C Thomas 1950–52 4 v 27 cm. Vol. I $7.50 Vol. II, $6 00 Vol. III, $8.75 Vol. IV $9 75. 1410

Contents (abridged) Volume I, Section A, Propedeutics in orthopedic diagnosis: Symmetry and asymmetry of the body. On contractures. On the interpretation of pain in orthopedic surgery. On the pathology of the gait. Section B Congenital deformities and disabilities: General observations and remarks on congenital deformities of the locomotor system. On congenital deformities due to disturbance of bone growth—the chondrodystrophies. On congenital deformities of the spine and thorax. On congenital talipes. On congenital defects and malformations of the long bones of the lower extremities. On congenital dislocation of the hip. On congenital deformities of the upper extremity. Index. Volume II: Section A, Paralytic disabilities. On poliomyelitis (pathogenesis and pathology). On anterior poliomyelitis—the clinical pathology. On anterior poliomyelitis—conservative treatment. On anterior poliomyelitis—operative treatment. On the paralytic scoliosis. On spastic paralysis. Section B, Static disabilities: On lumbosacral pain or low back pain. On idiopathic scoliosis. On the internal derangement of the knee. On static deformities of the foot and ankle. Subject index. Author index. Volume III: Section A, Tuberculosis of the skeletal system. On tuberculosis of the skeletal system. On tuberculosis of the spine. On tuberculosis of the hip joints. On tuberculosis of the knee. On tuberculosis of the foot and ankle. On tuberculosis of the upper extremity. Section B, Osteomyelitis. On the pathogenesis and pathology of osteomyelitis. On the clinical pathology of osteomyelitis. On the treatment of osteomyelitis. On osteomyelitis of the spine. On osteomyelitis of the pelvis. On the more unusual types of osteomyelitis. Subject index. Author index. Volume IV: Section A, Arthritis and diseases of muscles, bursae, tendons and fasciae. On chronic nonspecific arthritis. On the general treatment of atrophic arthritis. On the orthopedic treatment of atrophic arthritis. On hypertrophic arthritis. On spondylarthritis. On gout. On pyogenic arthritis. On syphilis of bone and joint. On the inflammatory diseases of the muscles. On Dupuytren's contracture. On diseases of tendons and bursae. On primary neuromuscular disease—muscular dystrophies and atrophies. Section B, Deficiency and degenerative diseases of the locomotor system. On osteomalacia. On senile decalcification of the bones. On degenerative bone disease. On aseptic necrosis or the osteochondritides. On neuro-arthropathies. Subject index. Author index.

Note. A collection of lectures by one of the most eminent authorities on orthopedic surgery in the United States of America. All orthopedic conditions are covered including rare conditions. A wide range of material from case histories is included. Much attention is given to pathogenesis, pathology and differential diagnosis. Therapy is covered also, but more briefly. Literature references accompany most of the lectures.

YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY

The 1951 year book of orthopedics and traumatic surgery (November 1950–November 1951) Edited by Edward L. Compere. Chicago The Year Book Publishers, Inc., 1952 380 p. illus. 20 cm. $5.50 1411

Content Introduction. Poliomyelitis. Congenital deformities. Anatomy embryology pathology and physiology of the skeletal system. Tumors. The epiphyses. Osteomyelitis and other infections. Fractures. The cysts and fibrodysplasia. Arthritis and rheumatism. The hand. The hip. Spine and pelvis. The neck, shoulder and arm. Surgical technic. Amputations. Leg and knee. The foot and ankle.

and prostheses. Instruments, appliances and bone banks. Miscellaneous. Index. Index to authors.

Note: (1230*) This annual volume is edited and organized similarly to the other books in this useful series. Selections from the world's medical literature published during the period noted in the title are abstracted at some length, some abstracts running to 500 words or more. Footnote references are given in all cases to the original publication. The abstract is sometimes supplemented by a note in which the editor himself evaluates the findings reported in the article or relates them to other work. There are 120 figures in the issue at hand.

PLASTIC SURGERY

BROWN JAMES BARRETT, AND FRANK MC DOWELL

Plastic surgery of the nose including reconstruction of war injuries and of deformities from neoplastic, traumatic, radiation, congenital, and other causes. With 379 illustrations including 48 in color St. Louis The C. V Mosby Company 1951 427 p. illus. (part col d) 26 cm. $15 00 1412

Contents: Section 1 General considerations: Introduction and historical note. Preoperative examination and evaluation of patients for plastic surgery of the nose. Preliminary preparations, anesthesia, and instruments. Section 2, Surgical reduction in the size of the nose. Hump removal and lowering of dorsal line. Narrowing the nose. Shortening the nose. Reconstruction of the lower lateral cartilages by rim incision exposure. Reconstruction of the lower lateral cartilages by the eversion technique without rim scars. Miscellaneous adjustments. Dressing, postoperative splinting and care. Section 3, Building up and straightening the nose. Bonding up the nose by osteoplastic procedures. Cartilage and bone transplants for dorsal line reconstruction and tip support. Straightening the crooked or twisted nose. Early treatment of fractures and other acute injuries. Section 4 Correction of cleft lip nasal deformities: Secondary repairs of noses associated with single cleft lips. Secondary repairs of noses associated with double cleft lips. Section 5 Repairs which include the grafting of skin. Skin grafts to the nose. Treatment of radiation lesions of the nose. Composite free grafts of skin and cartilage from the ear to the nose. Reconstruction of whole nose and of partial losses with flaps. Columellar repairs. Section 6, Various other nasal repairs. Secondary nasal operations. The nose in relation to the upper lip and chin. Benign tumors of the nose. Cancer of the nose. Repair of scars, burns, tattoos, rhinophyma, stenosis, hypertelorism, and rare congenital anomalies. Prostheses. War injuries of the nose—methods of reconstruction. Bibliographical note. Index.

Note: A book of operative procedures which the authors—who are now members of the faculty of Washington University School of Medicine—have used "and found most practical." No attempt is made to describe all operative techniques, and there is no bibliography except for an occasional footnote. However, the techniques included are described fully and the various steps are illustrated in photographs and drawings reproduced in large scale.

BROWN, JAMES BARRETT AND FRANK MC DOWELL

Skin grafting Second edition. 239 illustrations, including two plates in color Philadelphia J B Lippincott Company 1949 339 p. illus. (part col d) 26 cm. $7.50. 1413

Contents (abridged): Early general care of burns. Early local care of burns. Spontaneous healing of burns and other open wounds. Preparation of wounds for skin grafting. Application of thick split skin grafts. Application of free full-thickness grafts. Pedicle flaps. Repairs of hand, arm and axilla. Repair of body and lower extremities. Repairs of face, neck and mouth. Repairs of nose and ears. Homografts. Restoration of defects from mechanical injuries. Repair of chemical and electrical burns. Surgical repair of radiation injuries. Skin grafting in military plastic surgery. Faults of skin grafts. Bibliography. Index.

Note: (2459) The first edition of this book—published in 1943—was limited to skin grafting of burns. In this edition its scope has been enlarged to include skin grafting in the repair of lesions from other causes as well. Though not exhaustive, the book represents a manual of selected techniques, based largely on the authors' own work but including also some techniques described in the literature. Approximately half of the space is devoted to the illustrations. The text which accompanies the illustrations is written in direct and lucid style. The bibliography is extensive.

FOX SIDNEY A.

Ophthalmic plastic surgery New York Grune & Stratton, 1952 290 p. illus. 27 cm. $15.00 1414

Contents: The brow and the lids—anatomy. Fundamentals of lid surgery. Grafts. Technical details. Minor surgical procedures. The lid margins—first aid. Lid notches and colobomata. Canthal repairs. Entropion. Ectropion. Ptosis. Displacements of lid and globe. The conjunctiva. Socket reconstruction. Reconstruction of the lower lid. Upper lid reconstruction. Hair-bearing grafts. Index.

Note: A useful, well-illustrated manual addressed to general surgeons and to beginners in ophthalmic surgery. The author states, "I have attempted to include here in systematic and progressive order all the basic classical operations of our specialty. Except for a few final chapters on the more esoteric reconstructive aspects of lid surgery, all the procedures found here are those commonly used in every day practice. Generally speaking, each procedure included is described in a compact text and is illustrated in a series of drawings. Included also are valuable comments on special points in connection with the selected procedure and on alternative procedures. The author is a member of the faculty of New York University Post-Graduate Medical School.

KAZANJIAN VARAZTAD HOVHANNES, AND JOHN MARQUIS CONVERSE

The surgical treatment of facial injuries. Baltimore The Williams & Wilkins Company 1949 574 p. illus. 26 cm. $10.00 1415

Contents: The face. Healing of wounds. General principles of operative technic. Early treatment of facial injuries. Fractures of the mandible. Fractures of the maxilla. Fractures of the nose. Fractures of the zygoma. Complex fractures of the face. Some general principles of reconstructive surgery. Pedicled skin flaps. Free grafts of skin and mucosa. Free grafts of dermis, fat, fascia, cartilage and bone. Deformities of the upper portion of the face. Deformities of the eyelids and orbital region. Deformities of the nose. Deformities of the soft tissues of the lower portion of the face. Deformities of the bones of the lower portion of the face. Surgery of the oral cavity and pharynx. Temporomandibular ankylosis. Facial paralysis. Deformities of the external ear. Burns of the face. Maxillofacial prosthesis. Anesthetic management. Index.

Note: A comprehensive work based on the very extensive experience of the authors in private, institutional, and military practice. Anatomical, psychological and other basic aspects are not neglected but most of the space in the book is devoted to descriptions and illustrations of surgical cases and techniques. There are 746 figures and many of them contain several reproductions of drawings or photographs. A typical chapter is organized under the following subheadings: "Introduction—general considerations—the healing of burns—local treatment—late treatment of burn deformities—case histories. The book is of primary interest to medical students with interests in plastic surgery and to plastic surgeons and general surgeons, and of secondary interest to general practitioners of medicine, dentists, etc.

SELTZER, ALBERT PINCUS

Plastic surgery of the nose. 221 illustrations including 7 plates in color Philadelphia J B Lippincott Company 1949 305 p. illus. (part col d) 24 cm. $12.00 1416

Contents (abridged): The nose in physical anthropology. Anatomy of the nose. The embryology of the nose. The physiology of the nose. Preliminary and postoperative measures. Instruments. Grafts and their preparation. A typical rhinoplasty. Submucous resection of the septum. Saddle nose. Nasal deformities. Restoration of the subtotal and total loss of the external nose. Surgery about the nares. Cleft lip. Postoperative complications. The unsuccessful operation—its causes and prevention. Index.

Note: By limiting this book to the nose and the upper lip rather than attempting to cover the whole field of plastic surgery the author, who is a member of the faculty of the Graduate School of Medicine of the University of Pennsylvania and chief of plastic and reconstructive surgery of Community Hospital of Philadelphia, has been able not only to cover the appropriate surgical matters thoroughly but also to include a fair amount of background material. The illustrations include the expected before and after pictures of cases and also numerous step-by-step series illustrating surgical techniques. Literature references are included.

DENTISTRY

AMERICAN DENTAL ASSOCIATION

Accepted dental remedies including a list of accepted products together with other in formation compiled to promote rational thera peutics in dentistry 17th edition. Chicago American Dental Association 1952 211 p illus. 20 cm. Paper $2 00 1417

Contents. Members of the Council. Council consultants. Provisions for acceptance of products. Official agencies and official standards relating to drug products. Prescription writing. Analgesics, sedatives and hypnotics. Anesthetics. Antiseptics and germicides for topical application. Antibiotics and other anti-infectives. Agents and methods for the sterilization or disinfection of dental instruments. Astringents, styptics, hemostatics and vasoconstrictors. Central nervous system stimulants. Dentifrices. Fluorine compounds. Mechanical aids. Miscellaneous preparations. Mouth washes. Nutritional factors. Zinc oxide preparations. Formulas and tables. Symptoms and treatment of acute poisoning. Bibliographic index to products not included in A. D. R. Index to other current reports from the Bureau of Chemistry and the Council. Index to distributors. General index.

Note A standard manual of information about drugs and other remedies that have been officially accepted for use in dentistry by the American Dental Association. The points covered in the descriptions of individual medicines vary somewhat but generally speaking there are statements on properties, incompatibilities, actions, and uses. A structural diagram of the molecule is often included and literature references are made to the *United States Pharmacopeia* and the *National Formulary* for drugs included in these works.

APPLETON JOSEPH LUKE TEASDALE

Bacterial infection with special reference to dental practice. Fourth edition, thoroughly revised with 108 illustrations and 5 plates 4 in color Philadelphia Lea & Febiger 1950 644 p illus. (part col d) 24 cm. $10 00 1418

Contents (abridged) Part I, Bacteriology: Relation of bacterial growth to oxygen supply Pure culture study of bacteria. Filtrable viruses. Chemoprophylaxis and chemotherapy Part II, Infection How bacteria produce disease The natural defenses. The humoral defenses. The cellular defenses. Resistance or immunity Artificial active immunization. Characteristics of infection. Types of infection. The control and prevention of infectious disease. Part III, Special infections of the oral cavity: Ecology of the oral cavity The streptococcus-pneumococcus group. The spirochetes of the mouth. Dental caries. The bacteriology of the dental pulp. Periodental disease and infection. Focal infection. Vincent's disease. Actinomycosis. Osteomyelitis. Oral manifestations of extra-oral infections, exclusive of syphilis and tuberculosis. Interrelations of tuberculosis and oral infections. Bacteriologic aspects of oral hygiene. Index.

Note (1949) An inclusive, well-documented textbook and treatise. It is organized so as to convey sound knowledge of the principles, routes, and causes of infection and to describe the oral and related infections which are of interest in the practice of dentistry The text is compactly written and much ground is covered. Literature references are given in the form of footnotes and there are ten or more citations on many of the pages. Both sides of controversial matters, such as the concept of focal infection, are presented. The third edition was published in 1944. In this edition new textual material and new illustrations amounting to about 140 pages have been added and references to recent publications have been entered in the footnotes.

ARCHER, WILLIAM HARRY

A manual of dental anesthesia an illustrated guide for student and practitioner Philadelphia W B Saunders Company 1952 192 p illus. 26 cm. $5 50. 1419

Contents: The history of anesthesia. Part I, Local anesthesia: Local anesthetic solutions. Local anesthesia. Anesthesia for operative dentistry and root canal therapy Postinjection complications. Part II, General anesthesia: Preanesthetic examination. Preanesthetic and preoperative preparation of ambulatory patient. Face or patent airway General anesthesia for oral surgery in the office. Analgesia in dentistry General anesthesia for oral surgery in the hospital. Complications of general anesthesia for oral surgery—their prevention and treatment. Legal aspects of anesthesia. Index.

Note. Both anesthetic drugs and anesthetic techniques are covered in this well-written, fully illustrated work. Drugs are discussed in regard to chemical and physical properties, pharmacology and toxicity uses, duration of anesthesia, etc. Techniques are described explicitly The 146 figures are special feature. They include reproductions of drawings, roentgenograms and photographs and many are arranged in series that illustrate techniques in step-by-step fashion. The preliminary chapter on history runs to 34 pages and includes long list of references.

ARCHER, WILLIAM HARRY

A manual of oral surgery a step-by-step atlas of operative technics. Philadelphia. W B Saunders Company 1952 643 p. illus. 26 cm. $15 00. 1420

Contents: The extraction of teeth. The use of elevators in oral surgery Impacted teeth. Apicoectomy Oral surgery for dental prosthesis. Heat and cold indications in oral therapy Oral infections. Cysts of the oral cavity Surgical treatment of cysts of the oral cavity Salivary stones (sialolithiasis) Surgical treatment of oral nonmalignant tumors. Complications associated with oral surgery Oral malignancies—the dentist's responsibility—management of the primary lesions and their cervical metastases. Radiation therapy of carcinoma of the oral cavity Cleft lip. Cleft palate. Oral prosthesis in rehabilitation of cleft palate patients. Surgical treatment of prognathism of the lower jaw Fractures of the mandible and maxilla. Roentgen anatomy of the facial bones and jaws. Oral radiographic localization. Anatomical explanation of pain in and about the oral cavity Treatment of pain in the oral cavity and vicinity Oral surgery in the hospital. Sterilization and disinfection. Hospital dental care and dental education. Legal aspects of oral surgery Index.

Note An exceptionally inclusive and detailed textbook designed for students in dental colleges and for dental practitioners. For the latter it can serve both as "refresher" and presentation of new techniques. The more than 1000 figures include many step-by-step sequences of drawings and photographs illustrating techniques. Textual discussions also are explicit. Descriptions and illustrations of numerous interesting cases are included. The author is Professor of Oral Surgery and Anesthesia in the School of Dentistry of the University of Pittsburgh. Ten of the chapters were written by other specialists.

BRECKER SOL CHARLES

The porcelain jacket crown a manual stressing the preparation of normal and abnormal teeth. With 290 illustrations and frontispiece in color St. Louis The C. V Mosby Company 1951 263 p illus. (part col'd) 26 cm. $8.50 1421

Contents Classification of preparations for the porcelain crown. The preparation. Preparation of teeth influenced by their anatomy. Preparation of teeth influenced by their condition. Preparation of teeth influenced by their position. Procedures after the preparation is completed. Shortcomings of the porcelain jacket crown—how to prevent or minimize them. Porcelain bridges. References. Index.

Note: The aim of this very carefully prepared volume is to provide a technical guide for dental students and graduate dental practitioners. By means of numerous photographs and drawings rather than by many words the author explains the procedures and techniques involved in the construction of porcelain jacket crowns. There are selected references at the end of the volume.

BURKET, LESTER WILLIAM

Oral medicine diagnosis and treatment. With a chapter on oral cancer by S Gordon Castigliano 372 illustrations, including 40 subjects in color Second edition. Philadelphia J B Lippincott Company 1952 575 p. illus. (part col'd) 26 cm. $14 00 1422

Contents (abridged) Section One, General considerations: Medical-dental relations. Diagnosis in dentistry Section Two, Gingivitis, gingival enlargement, (nonspirochetal disease, metal intoxication and intolerance, halitosis. Section Three, Diseases of the tongue and dermatologic diseases of dental interest The dermatoses. Section Four Diseases of the organ systems: The respiratory system. The cardiovascular system. The gastro-intestinal system. The urogenital system. The endocrine system. The blood and the blood forming tissues. The bones and the joints. The nerves, the nervous system and the muscles. Section Five, Nutritional deficiencies and diseases of metabolism. Section Six, Specific infectious granulomata: Syphilis. Tuberculosis. Miscellaneous infectious granulomata. Section Seven, Focal infection, dental pediatrics, and geriodontics. Section Eight, Occupational hazards in dentistry and in industry Section Nine, Oral cancer Section Ten, Laboratory aids in diagnosis: Laboratory procedures. Section Eleven, Color atlas. Section Twelve, Regional diagnostic index. Index.

Note: (1214) A treatise which is concerned not only with those diseases that originate in the oral cavity but also with the pathology diagnosis, and treatment of various systemic diseases with oral relations. The principal theme is that the dentist often has an unusual opportunity to detect and diagnose diseases which are the direct concern of the physician, and that there should be therefore close cooperation between dentists and medical practitioners in the care of patients. Of course many of the diseases covered are wholly within the scope of the dentist. Discussions are full rather than concise and etiology symptoms, and treatment are usually covered. Extensive bibliographies are included and the illustrations are numerous and well reproduced. The chapter on oral cancer has been added in this edition. Certain other chapters have been rewritten or expanded and recent literature has been added to the bibliographies.

COOLIDGE EDGAR DAVID

Endodontia the clinical pathology and treatment of the dental pulp and pulpless teeth. 355 illustrations on 179 figures and a colored plate. Philadelphia Lea & Febiger 1950 300 p illus. (part col'd) 24 cm. $6 00 1423

Contents: Therapeutic principles. Dental pain, its source and characteristics. Treatment of the dentin Treatment of the dental pulp in which vitality should be preserved Treatment of vital pulps that should be removed Removal of the pulp and preparation of root canals for filling. Anatomy of root canals with relation to pulp removal and root canal filling Treatment of infected pulps and pulpless teeth Sulfonamide and antibiotic medication for infected root canals. Principles and technique of filling root canals. Healing and repair after pulp removal and root canal filling. Treatment of teeth with inflammatory disturbances of the apical periodontal tissues. Root resection. Focal infection Pulpless teeth. Index.

Note. A text on preventive dentistry or that branch of dentistry which aims at the conserving of rather than the extraction of teeth. The author considers all phases of healing and repair of pulpless teeth but places specific emphasis on root-canal treatment He considers each type of disease separately and outlines the proper treatment. He has incorporated results of recent research, such advances as the use of antibiotics in achieving sterility in infected root canals. References to the literature are included The book is of interest to upperclass students in dental schools and to dental practitioners.

COOLIDGE EDGAR DAVID AND MAYNARD K. HINE

Periodontia clinical pathology and treatment of the periodontal tissues. 378 illustrations on 219 figures and 2 colored plates Philadelphia Lea & Febiger 1951 318 p. illus. (part col d) 24 cm. $6.00 1424

Contents: Oral and dental hygiene. Dental prophylaxis. Classification of pathological changes in the periodontal structures. Treatment of gingivitis caused by mechanical irritants. Treatment of gingivitis caused by dental calculus. Treatment of gingivitis caused by infection. Gingivitis associated with systemic disturbances. Periodontitis. Periodontosis. Treatment of atrophy of the periodontal tissues. Functional response to occlusal stress and the treatment of traumatism. Hyperplasia of the gingival tissues and hyperplastic gingivitis. The use of the toothbrush in the treatment of periodontitis. Index.

Note. (1240*) This book is essentially an advanced text for students in dental colleges, but it has some usefulness also as an office reference book for graduate dentists. The descriptions of diseases and therapeutic procedures are clear and specific. Most of the illustrations are reproductions of photographs (including some microphotographs) and they are well reproduced Literature references are included. The book supersedes the senior author's *Clinical pathology and treatment of the pulp and periodontal tissues*, second edition, 1944, and it contains much textual matter and many illustrations which did not appear in that work.

DIAMOND MOSES

Dental anatomy including anatomy of the head and neck. Third edition. New York The Macmillan Company 1952 471 p. illus. 26 cm. $15 00 1425

Contents: Introduction and nomenclature. Comparative dental morphology The development of teeth. Formation and calcification of hard tissues. The tooth tissues Eruption. Deciduous teeth. The maxillary teeth. The mandibular teeth. Technique for reproducing basic tooth forms. Variations and anomalies. Arrangement of teeth and occlusion. The supporting tissues of the teeth. Atlas: The pulp chamber and the pulp canals. The muscles of the head and neck. The oral cavity and its soft tissues. The vascular system. The nervous system Temporomandibular articulation. The growth and development of the skull. Bibliography Index.

Note: (1473) An outstanding text published in first edition in 1929 and in second edition in 1935. The present third edition contains much new material of fundamental nature derived from research studies made subsequently to the writing of the second edition. The whole book has been reorganized and its scope considerably extended. The Atlas noted in the table of contents contains 32 plates based on original drawings made from new dissections. This atlas is not included in the paging of the volume. The bibliography is an extensive one classified according to the chapter arrangement.

ELLIS ROY GILMORE

The classification and treatment of injuries to the teeth of children a reference manual for the dental student and the general practitioner Third edition. Chicago The Year Book Publishers Inc. 1952 247 p. illus. 19 cm. $4 25 1426

Contents (abridged) Class 1, Simple fracture of crown, involving little or no dentin. Class 2, Extensive fracture of crown, involving considerable dentin but not the pulp. Class 3 Extensive fracture of crown, involving considerable dentin and exposing the pulp: Pulp capping. Pulpotomy Class 4 Traumatized teeth which become nonvital, with or without loss of crown structure Vital teeth Nonvital teeth, with pulp chamber opened by fracture. Nonvital teeth, with pulp chamber not opened by fracture. Class 5, Teeth lost as result of trauma. Placement of restoration. Repositioning to compensate for loss of teeth. Class 6, Fracture of the root, with or without loss of crown structure Class 7 Displacement of teeth, without fracture of crown or root: Partial displacement—extreme mobility but little displacement. Total or complete displacement. Class 8, Fracture of the crown en masse and its replacement Class 9 Traumatic injuries to deciduous teeth: Fracture of deciduous teeth, division 1 Displacement of deciduous teeth, division 2 Index.

Note A compact and useful work written from the viewpoint of the graduate dental practitioner. Each of the chapters begins with "Prescription for treatment" in which all the steps are covered from the recording of the case history to step-by-step notation of the treatment. Following this, various approaches to each problem are considered and diagrams, pictures, and X-ray photographs are used where applicable. Bibliographies are included. The author is Professor of Operative Dentistry at the University of Toronto.

ENNIS, LE ROY MASSEY

Dental roentgenology Fourth edition thoroughly revised. With 1207 illustrations Philadelphia Lea & Febiger 1949 538 p illus 24 cm. $10 00 1427

Contents (abridged) The roentgen-ray tube. Roentgen-ray dermatosis. Intra-oral and extra-oral technique. Methods of localization. Dental roentgen-ray films. Normal anatomical landmarks of the teeth and jaws as seen in the roentgenogram. Dental pathology in relation to roentgenology Index.

Note A standard treatise, the first edition of which was published in 1931 It is addressed to advanced students in dental colleges and to dental practitioners Although introductory to the field, it is an inclusive treatment with both basic information and detailed descriptions of practical techniques. The chapter on pathology is nearly 200 pages in length. A majority of the illustrations are reproductions of roentgenograms.

FELDMAN MAX HILLEL

Exodontia. Fourth edition thoroughly revised with 322 illustrations. With a chapter on dental malpractice jurisprudence by Michael A. Hayes Philadelphia Lea & Febiger 1951 290 p illus. 24 cm. $6.50 1428

Content The management of teeth in the presence of acute infection. Indications necessitating the extraction of teeth. The significance of roentgenographic examinations of the teeth. Operative considerations. Manipulation of instruments Exodontia technic for teeth in normal alignment Exodontia technic for teeth in abnormal alignment. Exodontia technic for roots fractured during extraction. Exodontia technic for roots fractured some time in the past and wholly or partially embedded. Exodontia technic for morphologically abnormal teeth. Impacted teeth. Exodontia technic for pathologically abnormal teeth. Sutures and drainage The management of deciduous teeth. Operative accidents. Postoperative considerations. Dental malpractice jurisprudence, by M. A Hayes. Index.

Note A detailed treatise on tooth removal As much attention is given to pre- and post-operative techniques as to the actual techniques of removal, although the latter are covered in full detail also. Two tools invented by the author a "cross-bar pathelever" and a surgical drill used to make an opening in the tooth for the insertion of the pathelever and the techniques dependent on these instruments are given some emphasis but other instruments and techniques are well covered also The author is Director of Dentistry at Lincoln Hospital, New York City

FISCHER, BERCU

Orthodontics diagnosis prognosis treatment. With 1180 illustrations on 212 figures. Philadelphia W B Saunders Company 1952 334 p. illus. 26 cm. $12 00 1429

Contents Hazards of treatment. The individuality hypothesis The meaning of the "normal" Case analysis. Inadequacy of intra-oral reciprocal orthodontic force The basic treatment plan—sectional treatment. Specific cases. Technical procedures. Methods of anchorage. Index

Note. A thoroughly detailed treatise on a system of orthodontic treatment which the author terms "sectional treatment" because a minimum number of teeth are subjected to orthodontic force at one time The principal technique makes use of occipital force applied to the teeth through an edgewise arch and occipital bow the latter of which is supported by a headcap worn by the patient Background matters such as variation of response in individuals are fully discussed The illustrations include many "before and after" photographs of cases and many drawings of appliance details

GOLDMAN HENRY MAURICE

Periodontia a study of the histology physiology and pathology of the periodontium and the treatment of its diseases. Second edition. With 488 illustrations including 18 in color St. Louis The C. V Mosby Company 1949 611 p. illus. (part col d) 26 cm. 1430

Contents: Periodontal anatomy histology, and physiology Pathology Etiology Experimental pathology Examination. Diagnosis. Treatment. Necrotizing ulcerative gingivitis. Medicinal aids in periodontal therapy Diseases of the oral cavity Index.

Note. (2660) A comprehensive, fully illustrated treatise. An understanding of the periodontium is viewed as essential knowledge on the part of every practicing dentist, and the subject is covered fully both in regard to the basic information and to the techniques of examination, treatment, etc., which are useful in practice. The book is based on the professional literature including the author's own writings. Comprehensive bibliographies are included with the chapters. Most of the illustrations are reproductions of photographs. The first edition was published in 1942 In this second edition the work reflects the great advances in the field made since 1942 in both histopathology and therapy The number of pages has been increased by more than 200 and the number of illustrations by 178.

GOTTLIEB BERNHARD AND OTHERS

Endodontia. By Bernhard Gottlieb Seth Lee Barron and J Hobson Crook. With 103 illustrations. St. Louis The C. V Mosby Company 1950. 177 p. illus. 24 cm. $6.50. 1431

Contents (abridged) A new approach to the biological problem behind root canal work. Pulpotomy of a young pulp which was exposed by trauma. The preparation of dentin-oxide [illegible] Pulp exposures not caused by trauma. The use of dentin, bone, or ivory powder for stimulation of hard tissue formation. The ideal closure of the apical foramen. Replacement of the dentin [illegible] by hard tissue formation. Root canal filling before replantation of teeth. The limits of pulpotomy Extirpation of the living pulp. Root canal filling after removal of a living pulp. Arsenic application on a living pulp. Prophylactic pulp extirpation. How far should a root canal filling go? Ionization—damaging applications during root canal treatment. Filling infected root canals. Reliable information by the X-ray as to whether it is safe to retain pulpless teeth. Endodontia—tooth resorption and interference with cementum cementum deposition. Inflammation and cementum deposition in endodontia and periodontia. Sclerotic bone. Root canal work and cementum hyperplasia. Formation of a fistula. Formation of a radicular cyst. Periapical curettage. Bleaching discolored teeth. Light technique. Electric pulp testers. [illegible] Index.

Note A series of experiments on dogs which extended over [illegible] years and was designed to throw light on the body's reaction to pulpless teeth formed the basis for this monograph. The work on dogs was supplemented by cadaveral and subsequent work on human beings. Among the findings reported is the fact that newly formed living cementum is often laid down over dead cementum "thus bridging over the outlets of the pulp canals and assuring that no infection in the root canal can ever cause any harm to the body outside the tooth. Although essentially a report, the book is addressed to dental practitioners and techniques are graphically described Most of the illustrations are reproductions of microphotographs. The authors are on the staff of the College of Dentistry of Baylor University

GROSSMAN LOUIS IRWIN

Dental formulas and aids to dental practice. With 25 illustrations 1 in color Philadelphia Lea & Febiger 1952 318 p. illus. (part col d) 21 cm. $5 00 1432

Contents (abridged) Section I, Operative dentistry Dentin desensitizers. Cavity sterilizing solutions. Dental cements. Self-curing acrylics. Silver alloys. Inlay gold. Dental ceramics. Coloring agents for porcelain. Section II, Prosthetic dentistry Impression materials Waxes Separating media. Investment material. Solders. Dental base materials. Denture adhesive powders. Denture cleaners. Section III, Therapeutics Anesthetics Endodontics. Periodontics, Oral hygiene. Oral surgery Prescription writing. Nutrition and vitamins. Section IV Diagnosis X-ray processing. Bacteriology Histological methods for dental tissues. Biologic tests. Section V 104 helpful hints. Section VI, Cosmetics, home remedies, antidotes, conversion tables, etc. Index.

Note: A useful collection of formulas for drugs and materials currently used in dentistry For each formula, ingredients and their amounts are stated and brief directions are given for compounding. At the beginning of each sub-section there is usually a discussion of the uses of the class of compound to which the sub-section is devoted, for example, formulas for cavity varnishes are preceded by a paragraph of discussion of their uses and limitations. Formulas for a few commercial compounds, particularly tooth powders and toothpastes, are included. The author is a member of the faculty of the University of Pennsylvania.

GROSSMAN LOUIS IRWIN

Root canal therapy Third edition thoroughly revised with 119 illustrations Philadelphia Lea & Febiger 1951 368 p. illus. 24 cm. $6.50 1433

Contents: History of root canal therapy Anatomy of root canals. Diseases of the dental pulp. Diseases of the periapical tissues. Examination and diagnosis. Pulp capping. Pulpotomy Pulp mummification. Pulpectomy Pulpless teeth and focal infection. Selection of cases for treatment. Principles of root canal treatment. Preparation of the root canal. Sterilization of the root canal. Bacteriologic examination. Filling of the root canal. Treatment of fractured and traumatized anterior teeth. Root resection. Bleaching of discolored pulpless teeth. Treatment of deciduous teeth, by K. Gerlach. Index.

Note: (1248*) A standard guide for dental practitioners. The discussions of history anatomy, and of standard techniques are not materially changed in this edition in comparison to the second edition published in 1946. However, important revisions and additions have been made in the section on antibiotics. Also there are approximately 30 new illustrations.

GROSSMAN, LOUIS IRWIN editor

Lippincott's Handbook of dental practice. Second edition with 388 illustrations, 4 color plates. Philadelphia J B Lippincott Company 1952 503 p. illus. (part col d) 26 cm. $10.00 1434

Contents Part one, Diagnosis and treatment. The prevention of dental caries, by R. G. Kesel and J. F Volker Control of dental caries, by L. I. Grossman. Oral diagnosis, by O. R. Winter and L. I. Grossman. Roentgenologic interpretation, by E. C. Stafne. Orthodontics, by A. G. Brodie Periodontics, by B. Orban. Endodontics, by L. I. Grossman. Diseases of the mouth, by L. W Burket. Prescription writing, by E. C. Dobbs. Anesthesia, by W H. Archer. Exodontics, by J R. Cameron and J. J Statter Jr. Part two, Restorative dentistry: Gold inlay restorations, by R. M. Grewett and H. K. Mathews. Amalgam, silicate and direct resinous restorations, by B. Kornfeld. Ceramic restorations, by C. C. Bastian. Pedodontics, by C. A. Sweet. Crown and bridge restorations, by A. G. Kleffenbach. Partial dentures, by V R. Trapozzano. Complete dentures, by V R. Trapozzano. Index.

Note: (1243*) A reference guide for practicing dentists. The style of presentation is direct and concise. Much use is made of illustrations and of tabular and semi-tabular statements of data and reference information. Bibliographies are included, but the book is not literature digest and no effort has been made to make them complete. The first edition was published in 1948 The major change in the second edition is the addition of the chapter on oral diagnosis. A section has been added on the use of the self-curing acrylics, and numerous smaller revisions and additions have been made in other chapters. About 80 illustrations have been added.

KRONFELD RUDOLF

Histopathology of the teeth and their surrounding structures. Third edition, thoroughly revised and edited by Paul E Boyle. With 464 illustrations. Philadelphia Lea & Febiger 1952 514 p. illus. 24 cm. $8.00 1435

Contents: Anomalies in shape and number of teeth. Physiology and pathology of tooth calcification Enamel hypoplasia and hypocalcification. Hutchinson's teeth. Mottled enamel. Regressive changes in dentin and pulp Dental caries, by H B. Williams. Pulpitis. Acute apical periodontitis. Chronic apical periodontitis. Tissue changes following root canal therapy Cementum—changes with age, function and infection. Tooth resorption. Epithelial attachment and gingival crevice. Periodontal diseases (gingivitis, periodontoclasia, pyorrhea alveolaris) Influence of function upon teeth and surrounding structures. Tissue changes due to excessive functional stress. Tissue changes in orthodontia. Embedded teeth—dentigerous (follicular) cysts—median anterior maxillary cysts. Tooth fracture. Healing of extraction wounds. Histology of edentulous jaws. Vincent's disease. Discolorations and stains. Common diseases of the oral mucosa. Tumors of the oral cavity Addenda Index

Note: A well-written treatise on the tissue changes that "correspond to certain well-defined, clinical conditions. Both etiologic and reactive changes are included and there is also much supplementary information such as discussion of the relationship between caries and pregnancy The book is used by advanced students of dentistry and by graduate dental practitioners. Very extensive bibliographies are included in the chapters. The second edition was published in 1939 In preparing this edition important revisions were made in the text of many chapters. The literature of the 1930's was added to the bibliographies and the number of illustrations was increased.

LANGLEY, LEROY LESTER, AND E. CHERASKIN

The physiological foundation of dental practice With 149 illustrations St. Louis The C. V Mosby Company 1951 511 p. illus. 25 cm. $8.25 1436

Contents (abridged) Section 1 The nervous system: Receptors. The nerves. Skeletal muscle. Sensory functions. Motor systems. Cerebellum. Cranial nerves. Referred pain and special reflexes. Vision. Audition, olfaction, gustation. Section 2, Circulation Cardiac muscle. The cardiac cycle. Electrocardiography Regulation of the heart's action. Cardiac output. Arterial blood pressure. The venous blood pressure. The capillaries and lymphatics. Blood. Section 3, Respiration Oxygen and carbon dioxide transportation. Control of respiration. Integration of the respiratory system—the administration of an anesthetic. Section 4, Excretion: Acid base balance. Integration of excretion—normal constituents, drugs, diuretics. Section 5, Alimentation: The dental tissues. Salivation. Food metabolism. Energy metabolism. Nutrition. Section 6, Endocrinology Index.

Note. This textbook was written with the aim to meet the needs of dental students for particular presentation of physiology different from that which would satisfy the medical student. About third of the volume is devoted to the physiology of the nervous system, the dentist being more intimately concerned with the nervous system than with any of the other systems. All the material is presented very briefly but accurately and is supported by illustrations. The authors are members of the faculty of the School of Dentistry of the University of Alabama.

MCBRIDE, WALTER CLAR

Juvenile dentistry Fifth edition thoroughly revised, with 302 illustrations. With special chapters by James Nuckolls Dorothea Radusch, C. Taylor Hall and Harold V Dwyer Philadelphia Lea & Febiger 1952 370 p illus. 24 cm. $7.00 1437

Contents: The management of the child. The management of the office. Growth and development of the teeth. Morphology of the deciduous teeth, with special reference to the pulp cavity and its relation to cavity preparation, by J. Nuckolls. Examination and diagnosis. Preventive dentistry Operative procedure for vital deciduous teeth. Pulp management in both dentitions. Operative procedures for young permanent teeth. Root resection, by C. T Hall. Filling materials and their application. Extraction and anesthesia. Preventive orthodontics. Teeth and the diet, by D. F Radusch. Physical diagnosis, by H. V Dwyer. Index.

Note: (1248*) This book is both text for use in dental colleges and manual for graduate dentists whose practice includes child patients. Most of its content pertains to disorders of children's teeth and the techniques of treating and restoring them but interspersed with the technical material is good deal of advice on the management of the child patient (and his parents) so as to obtain cooperation. The fourth edition appeared in 1945. Although much of the contents of this edition is identical with the contents of that one, some revision has been made in most of the chapters, and the recent literature has been added to the reference lists.

MCCALL JOHN OPPIE, AND SAMUEL STANLEY WALD

Clinical dental roentgenology technic and interpretation, including roentgen studies of the child and the adolescent. Third edition, with 1277 illustrations on 475 figures. Philadelphia. W B Saunders Company 1952 384 p. illus. 26 cm. $8.50 1438

Contents: Introduction. Electricity and roentgenology. The dental roentgenogram and the films used in dental roentgenography. Factors in dental roentgenography. Complete intra-oral roentgenographic ex-

ray—orientation of roentgenograms. Stereoscopic roentgenography Roentgenographic interpretation. Dental roentgenograms of the normal child. Differential diagnosis between anatomic landmarks and indications of pathologic conditions. Anomalies and abnormal development. Growth phenomena. Hypoplasia. Dental caries. Periapical lesions. Root resorption. Periodontal disease. Fractures of the teeth and jaws, and operative trauma. Osteomyelitis. Cysts. Bone dysplasias. Benign tumors of the jaws. Malignant tumors of the jaws. Involvements of the maxillary sinus. The temporomandibular articulation. Localization of misplaced teeth, cysts, salivary calculi and foreign bodies. Index.

Note. (1249*) Intended for dental hygienists, students, and practitioners, this book covers in detail the use of X-rays in diagnostic techniques in dentistry Almost as much space is given to the illustrations as is given to the text. As would be expected, large proportion of the illustrations are reproductions of roentgenograms, but some are photographs that show correct positioning of patients. The *second edition was published in 1947 In the third edition the scope* and organization are the same however significant additions and revisions have been made. The additional material includes description of the long cone technique. The number of pages has been increased by 40 and the number of illustrations by nearly 100.

McGehee William Harper Owen and Melvin W Green

Pharmacology and pharmacotherapeutics for dentists Fourth edition. Philadelphia *The Blakiston Company 1952 550* p Illus 24 cm. $7 50 1439

Contents. Basic principles of pharmacology and prescription writing. Drugs used by the dentist chiefly for their local effects on the mouth and teeth. Local drugs altering the inflammatory process. Drugs acting locally on the gastro-intestinal tract. Drugs acting on sensory nerves. Drugs acting chiefly after internal administration. Drugs acting on the autonomic nervous system and drugs acting on muscles. The pharmacology of the metals, specifics, vitamins and hormones Appendix. Therapeutic index. Subject index.

Note (1151) A standard text for college students of dentistry and reference book for use by practicing dentists. Property uses, dosages, and methods of application are given for wide range of drugs and pharmaceuticals Dental remedies whose value is still controversial are included if they have won some acceptance but their current status is clearly indicated. The appendix includes among other information tabulation of the solubility of important drugs and dental formulary and prescription guide. The third edition appeared in 1947 Important changes have been made in the present edition. These include discussions of new products, such as the ammoniated dentifrices, and changes in terminology necessary to make the text conform with the *United States Pharmacopoeia XIV* the *National formulary IX* and *Accepted dental remedies*, fifteenth edition.

Massler, Maury and Isaac Schour

Atlas of the mouth and adjacent parts in health and disease Drawings by Carl T Linden 180 illustrations (19 in color) Chicago Illinois American Dental Association 1951 unpaged. illus. (part col d) 29 cm. $2.50 1440

Contents The oral cavity The permanent arch. The deciduous arch. Relationships of enamel, dentin and pulp. Occlusion of the teeth (normal and abnormal) Life cycle of the tooth. Physiologic spacing of the anterior teeth Dental caries The progress of dental caries Effects of the loss of teeth Dental erosion Dental fluorosis. *Chronology of tooth development Growth and calcification patterns* of enamel and dentin Enamel hypoplasia. The teeth in congenital syphilis. Common lesions of the buccal mucosa. Common lesions of the lips. The progress of periodontal disease Diseases of the tongue. Benign conditions of the tongue The tongue in systemic disturbances. Oral diseases of occupational origin The floor of the mouth. The salivary glands. The tonsils (Waldeyer' ring) Common ailments of the throat. The paranasal sinuses. The effects of mouth breathing Frontal and horizontal sections through the face. Arteries of the head Veins of the head. The trigeminal nerve. Anatomy of the temporomandibular joint. Action of the temporomandibular joint in mouth opening Abnormal openings of the mouth. Abnormal closure of the temporomandibular joint Deviation of the midline in mouth opening. Facial asymmetry and midline deviation. The temporal muscle The masseter muscle. The internal pterygoid muscle. The external pterygoid muscle. Muscles of the mandible Fractures of the neck of the condyle. Fractures of the angle of the mandible. Fractures of the body of the mandible. Multiple fractures of the mandible and fracture in the midline. Treatment of mandibular fractures.

Note A compilation of large-scale illustrations of the teeth, the mouth, and related parts. As indicated by the plate titles—given above—the work has diagnostic value as well as anatomical. The book is made up so that each right-hand page is occupied by plate while the facing left-hand page carries the verbal legend or description.

Mead Sterling Vernon

Anesthesia in dental surgery With 212 illustrations. Second edition. St. Louis The C. V Mosby Company 1951 648 p. illus. 25 cm. $12 50 1441

Contents (abridged) Part I: Selection of anesthesia. Anesthesia and analgesia for various dental operations. Part II. History of local anesthesia. Anatomy Local anesthesia. Local anesthetic solutions. Armamentarium for local anesthesia. Infiltration, intraosseous, or peripheral method of producing anesthesia. Blocking the maxillary nerve and its branches by the intraoral method. Blocking the mandibular nerve and its branches by the intraoral method. Blocking the second or maxillary division of the fifth cranial nerve and its branches by the extraoral method. Blocking the third or mandibular division of the fifth cranial nerve and its branches by the extraoral method. Complications and accidents of local anesthesia. Part III History of general anesthesia. Physiology in relation to general anesthesia. Preoperative preparation and medication for general anesthesia. Intravenous anesthesia. Rectal anesthesia. Inhalation anesthesia. Muscular relaxation. Unfavorable reactions and complications. Emergency measures and resuscitation. Postoperative care. Index.

Note This work is primarily text for dental college students and secondarily survey of current techniques and reference manual for practicing dentists. There is decided emphasis on the practical aspects including such important but sometimes neglected topics as the legal responsibility of the dentist who administers anesthetics. The author does not favor any particular drug or technique but he does advise (1) that dentist work only with type of anesthesia with which he is fairly familiar and (2) that he keep up to date by taking training from an anesthetist on new types. Selected reference lists are included. The first edition of the book was published in 1935 In preparing this edition most of the original text was revised and much new material was added.

Salzmann Jacob Amos

Principles of orthodontics. Second edition. 533 *illustrations* Philadelphia J B Lippincott Company 1950 887 p. illus. (part col d) 24 cm. $15 00 1442

Contents Orthodontics in preventive dentistry and public health. Orthodontics and prophylactic orthodontics. Growth and development. Bone growth and the carpal index. Development and growth of the head. Developmental anatomy and physiology of the face and jaws Development of the dentition. Anomalies of tooth formation and eruption. Ontogenetic development of the occlusion of the teeth. The endocrines in relation to dentofacial deformities. Nutrition in relation to dentofacial development. Etiologic factors in dentofacial deformities. Classification and diagnosis of dentofacial anomalies. Differential diagnosis and treatment planning. Orthodontic examination of the patient. The prevention and treatment of malocclusion. Principles of mechanotherapy The Twin arch method The Johnson twin-wire appliance. The Mershon system. Labial and bite plates. Dentofacial changes in orthodontics. Index of authors. Subject index.

Note (1701) A treatise of wide scope. The primary emphasis is on the necessity of understanding growth processes and other biological factors. However, the latter 370 pages of the book are devoted to techniques. The book is used both as text in advanced and graduate courses and as reference manual in professional libraries. Very extensive bibliographies are included and the names of the authors of the cited papers are entered in the author index, thus forming guide to the currently important literature. The first edition appeared in 1943. Important additions and revisions are evident in this edition. The book is more than 200 pages longer, the number of illustrations has been substantially increased and the significant literature published since 1943 has been added to the bibliographies.

Sarnat Bernard G , editor

The temporomandibular joint. Springfield, Illinois Charles C Thomas 1951 148 p. illus.

23 cm. (American lecture series. Publication no 134 A monograph in American lectures in dentistry edited by Edward J Ryan) $4 75 1443

Contents: Functional anatomy of the temporomandibular joint, by H. Sicher. Histophysiology of the temporomandibular joint, by J. P Weinmann and H. Sicher. Contribution of the mandibular condyle to the growth of the face, by A. G. Brodie. Pathology of the temporomandibular joint, by J P Weinmann and H. Sicher. An evaluation of Costen's syndrome from an anatomic point of view by A. A. Zimmermann. Diagnosis of some abnormal temporomandibular joint conditions, by A. G. Brodie. Temporomandibular disorders: diagnosis and dental treatment, by J. R. Thompson. References.

Note: A collection of original papers written to clarify certain segments of the knowledge of the temporomandibular joint and to relate this knowledge to clinical problems and treatment. The level of writing is postgraduate. The editor is Head of the Department of Oral and Maxillofacial Surgery of the College of Dentistry of the University of Illinois.

STRANG, ROBERT HALLOCK WRIGHT

A text-book of orthodontia. Third edition thoroughly revised with 1050 illustrations on 583 figures and 5 plates some in color Philadelphia Lea & Febiger 1950 825 p. illus. (part col'd) 24 cm. $15 00. 1444

Contents (abridged) The basic principles of orthodontia. Normal occlusion of the teeth. The natural mechanics of the human denture. Malocclusion of the teeth. The etiology of malocclusion. The histology of the dental tissues. The growth and development of the denture. Tissue changes taking place coincidental to tooth movement. Orthodontic mechanisms. The edgewise arch mechanism. The corrective treatment of malocclusion. Routine operative technic. Appendix: Office equipment and routine. Index.

Note: A thoroughly detailed work in which the techniques of treatment are based on the use of the edgewise arch mechanism developed by Edward Hartley Angle. It is used both as text in dental schools and as an office reference book by graduate practitioners. Positioning of the bands on the teeth and adjusting of the wires in various types of malocclusion and in specific illustrative cases are described in minute detail. The second edition was published in 1943. This edition is longer by about 100 pages.

THOMA KURT HERMANN

Oral and dental diagnosis, with suggestions for treatment. With contributions by Henry Goldman and Fred Trevor Third edition. With 776 illustrations 60 in color Philadelphia W B Saunders Company 1949 563 p. illus. (part col d) 24 cm. $10.00. 1445

Contents (abridged) Part I, Principles and methods of examination and diagnosis: Case history. Physical examination. Laboratory tests. Special examinations for dental and oral diseases. Roentgen examination. Treatment planning Part II, Diagnosis and treatment of dental and oral diseases: Diagnosis of developmental malformations and their relation to the head, face, and jaws. Diagnosis of underdevelopment of the jaws, and malocclusion of the teeth. Diagnosis of malformations of the teeth. Diagnosis of general dental and oral conditions. Diagnosis of environmental changes in the teeth. Diagnosis of odontalgia. Diagnosis of periodontal disease. Diseases of the partially and completely edentulous mouth. Diagnosis of diseases of the oral mucosa, lips, and tongue. Diagnosis of fractures of the teeth and jaws. Diagnosis of diseases of the jaws Diagnosis of swellings of the soft tissues of the face and neck. Diagnosis of neurologic complaints. Diagnosis of oral foci, potential sources of systemic disease. Glossary Bibliography Index.

Note: (1710) A standard work widely used as textbook in dental colleges and as reference book by graduate dentists. A wide range of diseases is covered in compact style. Diagnosis is emphasized but treatment also is covered. In fact, in this third edition there is more attention to treatment than in preceding editions. 110 of the illustrations are new

THOMA, KURT HERMANN

Oral pathology a histological, roentgenological, and clinical study of the diseases of the teeth jaws, and mouth. Third edition. With 1660 illustrations, including 78 in color St. Louis The C. V Mosby Company 1950. 1592 p. illus. (part col d) 28 cm. $17.50. 1446

Contents (abridged) Part I, Hereditary influence in anomalies of the teeth and jaws. Endocrine influences on the development of teeth and jaws. Nutritional influences on the development of the teeth and jaws. Part II, Anomalies and diseases of the teeth: Developmental anomalies of the dentition. Pathology of the form and structure of the teeth. Environmental pathology of the teeth. Changes in the teeth caused by general disease. Traumatic injuries of the teeth. Part III, Odontitis: Dental caries. Pulp involvement. Dentoalveolar abscesses. Periodontal diseases, by H. M. Goldman. Complications caused by odontogenic infection. Part IV Anomalies and diseases of the head and jaws: Congenital malformations of the head and face. Malformations of the skull and their effect on the jaws. Congenital clefts of the face. Developmental anomalies of the jaws. General diseases affecting the jaws. Part Abnormalities and diseases of the temporomandibular articulation: Developmental anomalies. Traumatic injuries of the mandibular joint. Inflammatory arthropathies. Tumors of the mandibular joint. Part VI, Diseases of the nerves and muscles of the face and jaws. Part VII, Mouth diseases: Congenital and acquired anomalies. Oral diseases essentially local in character. Allergic manifestations and drug intolerance. Oral diseases of metabolic origin. Oral manifestations of virus diseases. Oral lesions in blood diseases. Oral lesions in dermatological diseases. Part VIII, Diseases of the salivary and mucous glands. Part IX, Tumors of the jaws: Tumors of odontogenic origin. Tumors of osteogenic origin. Tumors of the soft tissues of the oral cavity Index.

Note: (1710a) A treatise of exceptionally comprehensive scope. It covers both the gross pathology and the microscopic pathology of all of the common and most of the rare abnormalities and diseases of the teeth, jaws, and mouth. Clinical aspects are emphasized. Extensive references to the pertinent literature are included in the individual chapters. The work is used both as text in dental colleges and as reference book by dental graduates and others engaged in research or teaching of dentistry It is companion to the author's *Oral surgery* described below The second edition of *Oral pathology* was published in 1944. Numerous revisions were made in both text and illustrations in preparing this edition, and the total number of illustrations was increased by 272.

THOMA, KURT HERMANN

Oral surgery Second edition. With 1789 illustrations including 121 in color St. Louis The C. V Mosby Company 1952 2 v illus. (part col d) 26 cm. $30.00 1447

Contents: Volume I, The principles of surgery The general care of the patient. Anesthesiology Chemotherapeutics and antibiotics. Dentoalveolar surgery The treatment of abnormalities of the edentulous mouth. The treatment of traumatic diseases of the jaws. The treatment of odontogenic diseases of the maxillary sinus. The treatment of osteomyelitis and necrosis of the jaws. Volume II, The treatment of diseases of the mandibular joint. The treatment of infections of the face and neck. The treatment of diseases of the salivary and mucous glands. The treatment of diseases of the fifth and seventh nerves. The treatment of cysts of the jaw The treatment of benign tumors of the mouth and jaw The treatment of malignant tumors. The treatment of developmental deformities of the jaw The treatment of acquired defects of the mandible. The treatment of oral abnormalities and defects.

Note: (1241) An outstanding work which provides comprehensive and detailed description of surgical techniques used in the correction of diseases, injuries, and abnormalities of the oral cavity teeth, jaw and adjacent structures. Although addressed primarily to graduate dentists, especially those who are taking instruction in postgraduate dental schools, the scope of the book is so wide that it is useful reference treatise in both dentistry and medicine. Considerable attention is given to pre- and post-operative care of patients as well as to surgical techniques. Each volume is profusely illustrated and well supplied with extensive lists of the related literature. The first edition was published in 1948. In preparing this edition moderately extensive revisions were made in both the text and illustrations. The number of illustrations and the length of the text have both been increased, and recent literature has been added to the bibliographies.

WHEELER RUSSELL CHARLES

A textbook of dental anatomy and physiology Second edition, illustrated. Philadel-

phia W B Saunders Company, 1950 422 p. illus. 26 cm. $7 00 1448

Contents. Nomenclature and general considerations. Development of the teeth, calcification and eruption. General considerations in the physiology of the permanent dentition. Physiologic tooth form protecting the periodontium. The deciduous teeth. The permanent teeth—the maxillary incisors. The mandibular incisors. The canines (cuspids) maxillary and mandibular The maxillary premolars (bicuspids) The mandibular premolars (bicuspids) The maxillary molars. The mandibular molars. The pulp cavities of the permanent teeth. Dento-osseous structures. Temporomandibular articulation—muscles of mastication—analysis of mandibular movements. The arrangement of the teeth and occlusion. Index.

Note. (1711) A textbook for use in schools of dentistry. It is introductory to dental anatomy but it is thorough enough and sufficiently detailed to make it of interest to graduate dentists as well as to students. Terminology, embryology and physiology are considered in the first four chapters. The succeeding chapters are devoted to detailed study of general anatomy as the chapter titles indicate. The first edition was published in 1940. No major changes were made in preparing this edition, but the text has been revised and clarified in numerous places. Also, changes have been made in the illustrations. These include an entirely new series of illustrations in the chapter on pulp cavities. A selection of recent literature has been added to the bibliography. The author is Associate Professor of Anatomy in the School of Dentistry at Washington University

YEAR BOOK OF DENTISTRY

The 1951 year book *of* dentistry (August, *1950*–August, *1951*) Editors Stanley D Tylman and others. Chicago The Year Book Publishers, Inc. 1952 512 p. illus. 20 cm. $5 00 1449

Contents: Diagnosis. Pulpal and periodontal disease and related pathology. Caries. Public health. Dentistry for children. Orthodontics. Surgery and related pathology. Restorative and prosthetic dentistry. Index. Index to authors.

Note: (1144) As in other volumes of this useful series, the chapters consist of abstracts of important articles selected from the world's medical periodicals published during the period indicated in the title. The abstracts average about page in length and are therefore long enough to do justice to the original article. In many instances an abstract is supplemented by an editorial note. A reference to the original article is always included. In the present issue there are 347 figures.

ZEISZ, ROBERT C, AND JAMES NUCKOLLS

Dental anatomy The form and function of the permanent teeth, by Robert C. Zeisz, and The form and function of the deciduous teeth, by James Nuckolls With 427 illustrations. St. Louis The C. V Mosby Company 1949 486 p illus. 29 cm. $10 00 1450

Contents (abridged) Part I, Descriptive anatomy of the permanent dentition The permanent incisors. The permanent cuspids. The bicuspids. The permanent molars. Occlusion of the permanent teeth. Part II, Descriptive anatomy of the deciduous dentition The deciduous incisors. The deciduous cuspids. The deciduous molars. The relationship of the deciduous teeth. Measurements of the permanent teeth of man. Measurements of the deciduous teeth of man. Glossary Index.

Note: By limiting the scope of this book to the teeth the authors have been able to cover their teeth comprehensively. The drawings represent ideal teeth constructed as composites based on thousands of examples. Each face of each tooth is illustrated. Each surface is fully described and several cross-sections are shown. The glossary is extensive and the index is full and highly specific. The authors are members of the faculty of the Dental School of the University of California.

INDUSTRIAL MEDICINE

ELKINS HERVEY BERTRAND
The chemistry of industrial toxicology New York John Wiley & Sons Inc., 1950 406 p. illus. 23 cm. $6.50 1451

Contents (abridged) Evaluation of hazards. The elements. Inorganic compounds. Organic compounds. Natural and industrial products. Preventive measures. Industrial operations and processes. Maximum allowable concentrations. Fallacies and unsolved problems. Air sampling devices. Analytical methods and procedures. Bibliography Index.

Note: A reference manual of chemical information about harmful substances encountered in industry. It describes the properties of the various elements and compounds, indicates their harmful physiological effects, states the maximum allowable concentrations, and describes tests and other methods of evaluating concentrations and contaminations. However it does not cover pathology and other medicinal topics which usually constitute the main content of books on industrial toxicology. It will be useful to plant physicians, industrial health engineers, public health workers, and others concerned professionally with industrial hygiene.

FAIRHALL, LAWRENCE TURNER
Industrial toxicology Baltimore The Williams & Wilkins Company 1949 483 p illus. 24 cm. $6.00. 1452

Contents (abridged) Part I, Inorganic substances. Part II, Carbon compounds. Index.

Note A reference manual of information on substances handled in industry that have some toxicological interest although they may not be poisonous. Iron and tin, for instance, are discussed under inorganic substances along with arsenic, beryllium, etc. Each of the two major parts consists of a series of short essays arranged alphabetically under the names of the substances. The following points are covered in the typical essay on an individual substance: chemical and physical properties, industrial uses, toxicity analyses, and literature references. The average length of an essay is slightly over two pages.

FORBES, JOHN JOSEPH VINCENT, AND OTHERS
Review of literature on dusts by J J Forbes, Sara J Davenport, and Genevieve G Morgis. Washington, D C. Government Printing Office, 1950 333 p 23 cm. (United States. Bureau of Mines Bulletin 478) Paper $0 65 1453

Contents: Introduction. Definitions and classification of dusts Exposure to dust. Physiological effects of breathing dust. Historical résumé. Incidence of dust diseases. Types of dust injurious to health. Terminology of dust diseases. Pneumoconioses. Silicosis. Prevention of dust diseases. Principal dust factors producing pulmonary pathology. Determination of dust in air. Engineering control in prevention of dust diseases. Medical control in prevention of dust diseases. General recommendations for control of dust diseases in industry. Economic and legal aspects of dust diseases in industry. Cost of compensation for silicosis. Determination of working capacity. Bibliography. Index.

Note: This revision of Bureau of Mines Bulletin 400, 1937 assembles information in convenient form on various phases of the dust problem especially in the mining and allied industries. Because of the large amount of literature available on the subject the authors have not attempted to include all published material or all types of dust disease, but have limited their assemblage of data to certain aspects of the subject, with particular reference to lung affections.

HAMILTON ALICE AND HARRIET L. HARDY
Industrial toxicology Second edition, revised and enlarged. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1949 574 p. 22 cm. $6 50. 1454

Contents (abridged) Diagnosis of industrial poisoning. Alkalies, acids. Chromium. Lead. Mercury Arsenic. Phosphorus. Cadmium. Antimony metal fume fever, zinc, manganese Beryllium. Selenium, tellurium, vanadium, aluminum, copper tin. Nickel and other metals. Asphyxiants. Aromatic series. The petroleum, fatty aliphatic series. Chlorinated hydrocarbons. Carbon disulphide. Turpentine, toluene. Synthetic rubber, plastics, welding. Oil folliculitis. Occupational cancer of the skin. Occupational cancer of the lung. Occupational cancer of the bladder. Radiant energy. Rubbertest. Bibliography Index.

Note: (1373) A standard work which in this edition has undergone extensive revision and enlargement. The more important additions include new material on chemical agents used in the synthetic rubber and [illegible] welding industries, and new chapters on beryllium and radioactive substances. Intended for the use of plant physicians and general practitioners, the book is a discussion of the mode of bodily entry toxic effects, therapy and preventive measures of a wide variety of industrially useful organic and inorganic substances. Although enough information is given on most topics to suit the needs of most industrial physicians in their everyday work, the style is condensed. Key numbers in the text serve to guide the reader to the source publications. The bibliography has been brought up to date and lists 1300 references.

JACOBS MORRIS BORIS
The analytical chemistry of industrial poisons, hazards, and solvents. Second edition, revised and enlarged. Volume I. New York Interscience Publishers, Inc., 1949 788 p. illus. 24 cm. (Chemical analysis. A series of monographs on analytical chemistry and its applications. Editors Beverly L. Clarke and I M. Kolthoff) $13 50 1455

Contents. Industrial hygiene and industrial poisons. Sampling. Measurement of gas volume and quantity Absorbers and absorbents. The chemical and microscopic estimation of dust. The chemical and microscopic estimation of silica. Lead, mercury and arsenic. Other harmful metals. Common poisonous compounds of sulfur phosphorus, and nitrogen—oxygen and ozone. The common poisonous compounds of the halogens. Carbon monoxide, carbon dioxide, cyanides, and nitriles. General methods for the determination of combustible and solvent vapors. Paraffin and unsaturated aliphatic hydrocarbons. Benzene and the aromatic hydrocarbons. Halogenated hydrocarbons. Alcohols, glycols, alcohol-ethers, and ethers. Acids, esters, aldehydes, and ketones. Phenolic compounds—aniline and other organic nitrogen compounds. Appendix. Subject index.

Note (3117) A comprehensive technical treatment of interest not only to toxicologists, but also to specialists in industrial hygiene and safety personnel in manufacturing establishments. As the title indicates the emphasis is on the analytical chemistry Most of the space is devoted to detailed descriptions of analytical procedures. However data are also included on physical and chemical properties, toxicity physiological response, and detection. Literature references are included as footnotes. Substantial additions representing the advances in the field in the past decade have been made in this edition, and the length of the book has been increased by more than 100 pages.

KUHN HEDWIG STIEGLITZ
Eyes and industry Formerly *Industrial ophthalmology* Second edition with 151 text illustrations including 3 color plates. St. Louis The C. V Mosby Company 1950 378 p. illus. (part col d) 26 cm. $9.00. 1456

Contents: Visual testing in industry Visual skills. Visual standards. Corrective program. Industrial eye injuries caused by solid

bodies, by A. C. Snell. Radiation. Chemical eye injuries. Eye protection. Illumination. The blind in industry. Miscellaneous. Appendix. References. Index.

Note: (1729) Based on research work by the Joint Committee of Industrial Ophthalmology of the American Academy of Ophthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association, this monograph presents ophthalmology from the standpoint of the importance of vision in industry. The plan of organization is indicated by the chapter titles. Much of the material on eye injuries in industry, eye protection, lighting of work, etc., is not readily available elsewhere. The first edition appeared in 1944. This edition, though similar in scope and organization, has been increased in length by more than 80 pages and contains one new chapter, that on the blind in industry. New data and new expository material have been added in various parts, and recent publications have been added to the extensive literature lists.

PATTY, FRANK ARTHUR, editor

Industrial hygiene and toxicology. Volume II. New York, Interscience Publishers, Inc., 1949. p. 535–1138. illus. 25 cm. $15.00 1457

Contents: The halogens, by F. F. Heyroth. Alkaline materials, by F. A. Patty. Arsenic, phosphorus, selenium, sulfur and tellurium, by F. A. Patty. Compounds of oxygen, nitrogen, and carbon, by F. A. Patty. The cyanides and cyanogen compounds, by J. H. Sterner. Industrial lead poisoning, by R. A. Kehoe. The metals (except lead) by F. F. Heyroth. The aliphatic hydrocarbons, by F. A. Patty. Aromatic and cyclic hydrocarbons, by F. A. Patty. Halogenated hydrocarbons, by J. H. Sterner. The alcohols, by L. F. Treon, jr. Organic acids, by J. H. Sterner. The esters, by J. H. Sterner. The aldehydes, by J. H. Sterner. The ketones, by F. A. Patty. Ethers, glycols, and glycol ethers, by F. A. Patty. Aliphatic nitro, diazo, and amino compounds, by J. H. Sterner. Nitro and amino compounds of the aromatic series, by D. O. Hamblin. Phenol and phenolic compounds, by W. B. Deichmann. Potential exposures in industry: their recognition and control, by F. A. Patty and F. R. Holden. Subject index, volumes I and II.

Note: (1217*) Volume I of this work covers the broad aspects of the subject of industrial hygiene and volume II the properties and action of specific atmospheric contaminants, and furnishes information on industrial exposures, analytical methods, permissible concentrations, flammability, odors, and warning properties of the substances. The final chapter presents information about 60 processes, occupations, or industries that are of hygienic interest, the arrangement being alphabetical from "abrasive blasting" to "welding," the length of the treatment varying from a single paragraph to several pages. Bibliographical references are given throughout the volume in footnotes.

STONE, ROBERT SPENCER, editor

Industrial medicine on the plutonium project: survey and collected papers. New York, McGraw-Hill Book Company, Inc., 1951. 511 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 20) $7.00. 1458

Contents: Introduction. General introduction to reports on medicine, health physics, and biology, by R. S. Stone. Part A, Survey: Medical services of the plutonium project, by J. E. Wirth. Biological bases for maximum permissible exposures, by S. T. Cantril. Protective measures for personnel, by J. J. Nickson. Clinical laboratory examination of plutonium project personnel, by L. O. Jacobson and E. K. Marks. Hematological effects of ionizing radiations, by L. O. Jacobson and others. Biochemical studies relating to the effects of radiation and metals, by S. Schwartz. Uranium excretion studies, by R. J. Ferretti and others. Distribution and excretion of plutonium, by E. R. Russell and J. J. Nickson. Management and treatment of exposed personnel, by J. E. Wirth. Requirements of an adequate health service in relation to atomic research and industrial development, by S. T. Cantril and others. Part B, Collected papers: Industrial medical program—Hanford Engineer Works, by S. T. Cantril. Blood changes in human beings following total-body irradiation, by J. J. Nickson. Hematological studies on patients treated by total-body exposure to X-rays, by R. V. A. Lowe-Beer and R. S. Stone. Changes in serum blood levels of metallurgical laboratory employees during the first year of employment as related to working conditions, by N. Pearlman and G. A. Sacher. Biometric investigations of blood constituents and characteristics in a population of project workers, by G. A. Sacher and others. Effect of exercise on leucocytes: statistical analysis, by E. K. Marks and others. Determination of radium in excreta, by E. R. Russell and G. W. Reed, Jr. Treatment of plutonium poisoning by metal displacement, by J. Schubert. Status of health and protection at the Hanford Engineer Works, by S. T. Cantril and H. M. Parker. Tolerance to whole-body radiation of patients with advanced cancer, by L. F. Craver. Index.

Note: A collection of summarized reports and papers based on original research (and to a lesser extent on experience) carried out in connection with the production of the atomic bomb. The style of presentation is technical. The book is suited to such readers as graduate scientists who are concerned with programs of research into the effects of radioactive substances upon living tissue and physicians whose duties include the protection of industrial and laboratory personnel from exposure to excessive radiation.

AVIATION, MILITARY AND NAVAL MEDICINE

ADAMS GEORGE WORTHINGTON

Doctors in blue the medical history of the Union Army in the Civil War New York Henry Schuman, 1952 253 p. illus. 22 cm. 1459

Contents The medical confusion of 1861. Reformers vs. regulars. The Pecksniff regime and the army surgeons. Beginnings of an ambulance system. Improvement in field tactics. Wartime surgery. Operations and infections. The general hospitals. Nurses, staffs, and convalescents. Army sanitation and hygiene. Diseases and treatments. A note on the sources. Appendix. Index.

Note: A detailed and graphic picture of military medicine as practiced during the Civil War period in the United States of America. Despite the advances that had been made in medicine up to that time, the descriptions of camp conditions, facilities for hospitalization, care of the wounded on the battlefield, surgical methods and general medical care, indicate rather appalling conditions. Although limited to one phase of medical practice, the book provides a general picture of the state of medical knowledge in the United States in the 1860's. A long list of source materials is included; however, statements and data in the text are not directly related to the sources.

ARMSTRONG HARRY GEORGE

Principles & practice of aviation medicine. Third edition Baltimore The Williams & Wilkins Company 1952 476 p. illus. (part col d) 24 cm. $7.50 1460

Contents Historical (to 1900) Historical (twentieth century) Principles and practice. Introduction to pilot selection. Examination of the eye. Cardiovascular examination. Ear nose and throat examination. General physical examination. Neuropsychiatric examination. Objective aptitude tests for flying training. Various substances in aviation. The atmosphere. Altitude sickness. Oxygen in aviation. Aerotitis media and aerosinusitis. Effects of aircraft noises. Aerial equilibration. Airsickness. Decompression sickness. Pressure cabin aircraft. Speed and acceleration. Accidents in aviation. Emotional reactions to flight. Air rescue and air evacuation. Aerial hygiene and sanitation. Protective flying equipment. Index.

Note. (3715a) A standard treatise which provides a general survey of the scope and contents of aviation medicine and is addressed to both advanced students in medical colleges and graduate practitioners of medicine. In many parts the terminology is only semi-technical, hence the book has some utility as a source of information for technically trained persons in fields other than medicine. Four new chapters have been added to the present edition and there has been considerable revision and rearrangement of the material carried over from preceding editions. The author is the Surgeon-General of the United States Air Force.

BEEBE GILBERT WHEELER, AND MICHAEL E. DEBAKEY

Battle casualties incidence mortality and logistic considerations. Springfield, Illinois Charles C Thomas, 1952 277 p illus. 24 cm. $10.50. 1461

Contents Introduction. Incidence of hits and wounds. Death from wounding. Effectiveness of weapons. Location of hits and wounds. Logistic problems of personnel, hospitalization, and evacuation in forward areas. Appendices. Glossary. Index.

Note: A work based on data contained in official records of the Army Medical Service, United States Army. It contains analyses of United States experience in World War II. The experience is analyzed in discussions and also in about 100 tables. The work is of interest to military surgeons, especially those who are in charge of planning for the surgical care of men wounded in battle.

BEECHER, HENRY KNOWLES

Early care of the seriously wounded man. Springfield, Illinois Charles C Thomas 1952 52 p. 22 cm. (American lecture series. Publication no. 138. A monograph in American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling) $0.75 1462

Contents: Introduction. General considerations. Field care prior to hospital admission. Specific preoperative procedures. Care of men with specific wounds. Morphine and other narcotics. Anesthesia for wounded men. Summary

Note This monograph is based on actual experience with men wounded in battle. The emphasis is on treatment of the patient in the interval between the actual wounding and the final repair. The author weighs the various levels of resuscitation in their application at different times and under many conditions. He describes anesthetic action to be taken in a variety of wounded conditions with emphasis first on general conditions and finally on specific procedures. In each instance the effects of specific remedies are described. Where certain anesthetics should not be used, that information is also presented.

COBURN ALVIN FREDERICK, AND DONALD C YOUNG

The epidemiology of hemolytic streptococcus during World War II in the United States Navy Baltimore The Williams & Wilkins Company 1949 229 p. illus. 24 cm. $4.00. 1463

Contents (abridged) Magnitude of the streptococcal problem in the U. S. Navy during World War II. The mechanism of spread of streptococcus hemolyticus within a naval training center. The development of focal points of streptococcal infections early in World War II. The introduction of mass chemoprophylaxis—its relation to the epidemiology of streptococcus hemolyticus. The spread of sulfonamide resistant strains of streptococcus hemolyticus. A comparison of conditions and occurrences at six naval activities where sulfonamide resistant strains of streptococcus hemolyticus spread rapidly in the winter months of 1943. Observations on the infecting agents in relation to the initiation of streptococcal outbreaks during the last year of World War II. Observations on the relation of geographical environment to the virulency of streptococcus hemolyticus in dust. Observations on the correlation between fomentitis and endemic reservoirs of streptococcus hemolyticus at naval training stations. Observations on the relation of rheumatic fever to the epidemiology of streptococcus hemolyticus. Observations on the relation of testing streptococcus hemolyticus for serologic type and sulfonamide resistance. Potential factors in the spread of streptococcus hemolyticus on which information was lacking prior to World War II. Conclusions. Glossary. Bibliography. Index.

Note Essentially this work is a detailed field report on the experience with hemolytic streptococcus in the United States Navy during World War II. The data on which the book was based were unusually comprehensive. The authors have not only summarized them but have also pointed out interrelationships and drawn certain conclusions. There are numerous tables and a bibliography of 73 references.

bodies, by A. C. Snell. Radiation. Chemical eye injuries. Eye protection. Illumination. The blind in industry. Miscellaneous. Appendix. References. Index.

Note. (1720) Based on research work by the Joint Committee of Industrial Ophthalmology of the American Academy of Ophthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association, this monograph presents ophthalmology from the standpoint of the importance of vision in industry. The plan of organization is indicated by the chapter titles. Much of the material on eye injuries in industry, eye protection, lighting of work, etc. is not readily available elsewhere. The first edition appeared in 1944. This edition, though similar in scope and organization, has been increased in length by more than 50 pages and contains one new chapter, that on the blind in industry. New data and new expository material have been added in various parts, and recent publications have been added to the extensive literature lists.

PATTY FRANK ARTHUR, editor

Industrial hygiene and toxicology Volume II. New York Interscience Publishers Inc., 1949 p. 535–1138 illus. 25 cm. $15 00 1457

Contents: The halogens, by F F Heyroth. Alkaline materials, by F A. Patty. Arsenic, phosphorus, selenium, sulfur and tellurium, by F A. Patty. Compounds of oxygen, nitrogen, and carbon, by F A. Patty. The cyanides and cyanogen compounds, by J H. Sterner. Industrial lead poisoning, by R. A. Kehoe. The metals (except lead) by F F Heyroth. The aliphatic hydrocarbons, by F A. Patty. Aromatic and cyclic hydrocarbons, by F A. Patty. Halogenated hydrocarbons, by J H. Sterner. The alcohols, by J F Treon, jr. Organic acids, by J H. Sterner. The esters, by J H. Sterner. The aldehydes, by J. H. Sterner. The ketones, by F A. Patty. Ethers, glycols, and glycol ethers, by F A. Patty. Aliphatic nitro, diazo, and amino compounds, by J H. Sterner. Nitro and amino compounds of the aromatic series, by D O. Hamblin. Phenol and phenolic compounds, by W B. Deichmann. Potential exposures in industry, their recognition and control, by F A. Patty and F R. Holden. Subject index, volumes I and II.

Note. (1177*) Volume I of this work covers the broad aspects of the subject of industrial hygiene and volume II the properties and action of specific atmospheric contaminants, and furnishes information on industrial exposures, analytical methods, permissible concentrations, flammability, odors, and warning properties of the substances. The final chapter presents information about 80 processes, occupations, or industries that are of hygienic interest, the arrangement being alphabetical from "abrasive blasting" to "welding," the length of the treatment varying from a single paragraph to several pages. Bibliographical references are given throughout the volume in footnotes.

STONE ROBERT SPENCER, editor

Industrial medicine on the plutonium project survey and collected papers. New York. McGraw Hill Book Company Inc., 1951 511 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 20) $7 00 1458

Contents: Introduction. General introduction to reports on medicine, health physics, and biology by R. S. Stone. Part A, Survey: Medical services of the plutonium project, by J E. Wirth. Biological bases for maximum permissible exposures, by S. T. Cantril. Protective measures for personnel, by J. J. Nickson. Clinical laboratory examination of plutonium project personnel, by L. O. Jacobson and E. K. Marks. Hematological effects of ionizing radiations, by L. O. Jacobson and others. Biochemical studies relating to the effects of radiation and metals, by S. Schwartz. Uranium excretion studies, by R. J Ferretti and others. Distribution and excretion of plutonium, by E. R. Russell and J J. Nickson. Management and treatment of exposed personnel, by J E. Wirth. Requirements of an adequate health service in relation to atomic research and industrial development, by S. T Cantril and others. Part B, Collected papers: Industrial medical program—Hanford Engineer Works, by S. T Cantril. Blood changes in human beings following total-body irradiation, by J. J Nickson. Hematological studies on patients treated by total-body exposure to X-rays, by B. V A. Low-Beer and R. S. Stone. Changes in serum blood levels of metallurgical laboratory employees during the first year of employment as related to working conditions, by N Pearlman and G. A. Sacher. Biometric investigations of blood constituents and characteristics in a population of project workers, by G. A. Sacher and others. Effect of exercise on leucopenia: statistical analysis, by E. K. Marks and others. Determination of radium in excreta, by E. R. Russell and G. W Reed, jr. Treatment of plutonium poisoning by metal displacement, by J. Schubert. Status of health and protection at the Hanford Engineer Works, by S. T. Cantril and H. M. Parker. Tolerance to whole body irradiation of patients with advanced cancer, by L. F Craver. Index.

Note. A collection of unrestricted reports and papers based on original research (and to a lesser extent on experience) carried out in connection with the production of the atomic bomb. The style of presentation is technical. The book is suited to such readers as graduate scientists who are concerned with programs of research into the effects of radioactive substances upon living tissue and physicians whose duties include the protection of industrial and laboratory personnel from exposure to excessive radiation.

PUBLIC HEALTH

CHENOWETH LAURENCE BENJAMIN, AND WHITELAW REID MORRISON

Community health. Third edition. New York Appleton-Century-Crofts, Inc. 1949 314 p. illus. 22 cm. $3.00. 1466

Contents: Hygiene and health education. Health conditions in the United States. Types and causes of disease. Immunology. Contact infection. Diseases spread by the human carrier. Diseases usually contracted from the soil. The relation of air to health. Water and water-borne diseases. Diseases spread by animals. Diseases usually transmitted by food. Diseases spread by insects. Quarantine, isolation, and disinfection. Waste disposal. The accident problem. Public health administration. Vital statistics. Difficult health problems. Glossary. Index.

Note: (1779) A survey of typical community health problems and of methods of handling them, written for use in introductory college courses. Emphasis is placed on preventive measures, with some attention given to the historical background of the subject. Previous editions were entitled "Community hygiene." For this edition the work was not only re-titled but there has been considerable rearrangement and revision.

COHN ALFRED EINSTEIN, AND CLAIRE LINGO

The burden of diseases in the United States. New York Oxford University Press, 1950 129 p. illus. (part col'd) 31 cm. $10.00 1467

Contents: The international list of causes of death—changes in nomenclature. On the value of statistical statements. Population and the death rate. Leading causes of death. Race. Sex. The course of events in specified diseases. Shape of curves by diseases. Numerical changes in selected causes of death. Morbidity. Summary. Addendum. Notes. References.

Note: A valuable interpretive study of statistical data available in the publications of the United States Bureau of the Census and the World Health Organization. The statistical data have been used as a basis for a series of graphs and charts and these are supplemented by a commentary written by the authors. In the chapter on leading causes of deaths the data and commentary are organized by age groups, and in that on the course of events and specified diseases the arrangement is by specific diseases and groups of related diseases. Five charts reproduced in color, suitable for wall mounting and on a large scale, are supplied in a separate slipcase. The book is a basic reference tool in public health work, life and sickness insurance, and in other fields where data on disease, causes of death, and life expectancy are useful.

HANLON, JOHN JOSEPH

Principles of public health administration. With 48 illustrations St. Louis The C. V Mosby Company 1950 506 p. 25 cm. $6.50 1468

Contents: Part I, Introduction. The philosophy of public health. The background and development of public health in the United States. The socioeconomic implications of public health activities. Part II, Administrative considerations in public health. Organizational considerations in public health. Personnel factors in public health. Fiscal management in relation to public health. Legal considerations in public health. Governmental aspects of public health. Public relations in the public health program. Part III, Pattern of public health activities in the United States. Present organization of official public health programs. Vital statistics. The control of communicable diseases. Maternal and child health activities. Chronic diseases and adult health. Environmental health. Laboratory services. Health education. Public health nursing. The voluntary health agencies. Public health, the private physician, and medical care. Public health and private enterprise. Authors' index. Subject index.

Note: An introductory work for students and graduates who are preparing for careers in administrative positions in the public health field. The subject is covered both broadly and specifically and against the background of the current public health situation in America. The author is a member of the faculty of the School of Public Health of the University of Michigan.

HISCOCK IRA VAUGHAN

Community health organization. Fourth edition. New York The Commonwealth Fund, 1950 278 p. illus. 24 cm. $2.75 1469

Contents: The government and public health. The planning of community health work. Organization and administration. Public health education. Statistics and records. Preventable disease control: epidemiology. Venereal disease control. Tuberculosis control. The maternal and child health program. The school health program. Public health nursing. Environmental sanitation. Laboratory service. Hospital and health center facilities. Newer health problems. Medical care administration in relation to public health. Voluntary health service. The health survey. Financial aspects of community health work. Index.

Note: (3764) A new and revised edition of a standard work on community health services and organization. In comparison to the edition of 1939 many of the chapters have been rewritten and new material has been added in order to furnish health officers, nurses, and teachers of public health with up-to-date practices for the protection and promotion of public health. The work is practical rather than theoretical, being based upon surveys of health administration in cities of varying sizes. The work may be used as a handbook by the health administrator and his staff, as an instruction manual for the training of health personnel, and also as a source of information for the layman interested in the health work of official and voluntary agencies.

HOPKINS EDWARD SCOTT AND FRANCIS B ELDER

The practice of sanitation. Baltimore The Williams & Wilkins Company 1951 423 p. illus. 24 cm. $7.50. 1470

Contents: *Fundamental concepts. Principles of disinfection.* The sanitary survey. Food sanitation and the public health. Milk and milk products. Water supplies. Disposal of sewage. The control of stream pollution. Disposal of refuse and solid wastes. Ventilation. Swimming pools. Environmental sanitation and the public health. Insect and rodent control. Administrative procedures. Index.

Note: A manual of fundamental practices according to the best public health standards in the United States of America. Such methods as food handling in restaurants and such devices as incinerators for the disposal of garbage and other combustible refuse are described. The descriptions are cast in a simple, readable style and are only semi-technical. However the chapters are all supplemented with well-selected references to the technical literature. The book is suited to use as an elementary text in courses offered to medical, nursing, and public health students and as a reference book in public health and general libraries.

MATHESON ROBERT

Medical entomology Second edition. Ithaca, New York Comstock Publishing Company Inc., 1950 612 p illus. 24 cm. $7.50 1471

Contents (abridged): Arthropods and human disease. The order Acarina. The Pentastomida. The orders Orthoptera and Hemiptera. The order Anoplura—the biting and sucking lice. The Diptera—flies. Mosquitoes. The problem of mosquito control. Other bloodsucking nematocerous flies. The bloodsucking muscoidean flies. The housefly and its allies. Myiasis of man and allied conditions. The Siphonaptera—fleas. Poisonous and urticating arthropods. Collecting, preserving, and mounting insects. Index.

Note: A survey which serves both as an introductory text for col-

large students of medicine and public health and as a reference guide for graduate workers in the field. It is arranged by order and much morphological information is included. However more attention is given to life cycles rather than the transmission of human diseases and the control. The extensive bibliographies contain largely literature on the medical and public health aspects, but the chief systematic descriptions are listed also. The first edition was published in 1932. This edition is a complete revision in which are incorporated the major advances in the field during World War II and the subsequent years. There are now 242 figures, of which 83 were added in this revision.

MAXCY, KENNETH FULLER, editor

Rosenau preventive medicine and hygiene. Seventh edition. New York Appleton-Century-Crofts Inc., 1951 1462 p. illus. 25 cm. $14 00 1472

Contents (abridged) Section one, Prevention of communicable diseases: Contagious diseases spread largely from the mouth and nose. Air-borne infection, by A. D. Langmuir. Contagious diseases spread largely through fecal discharges. Contagious diseases spread by genital contact, by E. G. Clark. Arthropod-borne diseases. Control of rats and other rodents, by D. E. Davis. Diseases spread largely by contact with animal or other extrahuman sources. Section two Nutrition and deficiency diseases, by W H. Sebrell, Jr Section three, Maintenance of health and prevention of disability: Historical development of maternal and child health, by P A. Harper Maternal health services, by J Whitridge, Jr. Infant and preschool services, by P. A. Harper. Health services for children of school age, by A. Foord. Services for the physically handicapped child, by R. M. Dorsey. Senescence, chronic disease and disability in adults, by L. Breslow Mental hygiene, by P V Lemkau. Section four, Food sanitation. Section five, Environmental medicine, by A. M. Baetjer. Section six, Industrial hygiene disease of occupation, by A. M. Baetjer. Section seven, Sanitary control of water supplies, sewage and refuse disposal. Section eight, Methodology: Epidemiology Statistical reasoning, by P M. Densen. The health of the population, by P M. Densen. Section nine, Public health organization and activities, by E. L. Stebbins. Index

Note. (2775) This work has long been recognized as an authoritative presentation for the instruction of students of medicine and public health and the guidance of graduate practitioners in these fields. It provides a comprehensive view of the subject and includes some historical and statistical information. The preceding edition appeared in 1935 and was the last one written by the original author Much revision is evident in the present edition. Changes in preventive medicine, such as the great progress in recent years in the control of communicable diseases, the increasing number of aged in the population, and the extension of public health organizations, are reflected. There are now 51 chapters and 26 contributors in addition to the editor. The extensive reference lists have been revised.

MILBANK MEMORIAL FUND

Research in public health papers presented at the 1951 annual conference of the Milbank Memorial Fund. New York Milbank Memorial Fund, 1952 279 p illus. 23 cm. Paper $1 00 1473

Contents (abridged) Part I, Types of studies and methodology: Role of basic research in elucidating etiology and prevention of major causes of disability and death, by L. A. Scheele. The longitudinal study of families as a method of research, by J Downes. Ecological investigation of disease, by J. E. Gordon. Experimental studies of effects of changing environment, by D. G. Wiehl. Evaluation of preventive health services in industry by L. J. Goldwater Evaluation of special tests and procedures in public health, by H. F Dorn. Research in public health administration, by E. L. Stebbins. Part II, Family studies as a method of public health research: A frame of reference for family research in problems of medical care, by L. W Simmons. Longitudinal study of the health insurance plan of greater New York, by M. R. Densford. The Canadian sickness survey by F W Jackson. Family study of poliomyelitis, by A. D Langmuir and others. Family studies of the common respiratory diseases, by G. F Badger. Family studies in Pittsburgh, Pennsylvania, by A. Ciocco. The long term study at Hagerstown, Maryland, by P S. Lawrence.

Note. In this collection of original papers the main theme is the need for research that will develop knowledge upon which public health programs for the prevention and care of adult diseases, especially the chronic and degenerative diseases, may be based. Research methods are discussed and some notable research studies are described. Transcripts of the discussion at the conference are included with most of the papers.

NATIONAL HEALTH ASSEMBLY, WASHINGTON, D C., MAY 1–4, 1948

America's health. A report to the nation by the National Health Assembly Official report. New York Harper and Brothers, 1949 395 p. 24 cm. $4.50 1474

Contents: Introduction, by Oscar R. Ewing, Federal Security Administrator Chairman, National Health Assembly What is the nation's need for health and medical personnel? What is the nation's need for hospital facilities, health centers, and diagnostic clinics? What is the nation's need for local health units? Chronic disease and the aging process. A national program for maternal and child health. A national program for rural health. What is the nation's need for research in the service of health? What is the nation's need for medical care? State and community planning for health. Physical medicine and rehabilitation. What can be done to improve dental health? A national program for mental health. What can be done to improve nutrition? A national program of environmental sanitation. International co-operation in health. Index.

Note. The National Health Assembly was convened in Washington by the Federal Security Administrator in 1948 to furnish the groundwork needed in the preparation of a ten-year plan for expanding the health resources of the United States with a view to raising the health standards of the entire population. Attending the Assembly in fourteen different sections were about 800 representatives of professional medical and welfare organizations and public and private agencies concerned with matters of public health. This book is the official report of that Assembly It presents factual information on all phases of the public health problem in the United States, indicates which were considered the most critical by the Assembly and explains what could be done with the full co-operation of community and state health units and the general public.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON NUTRITION SURVEYS

Nutrition surveys their techniques and value. Washington D C. Published by the National Research Council, National Academy of Sciences 1949 144 p 24 cm. (National Research Council. Bulletin number 117 May 1949) Paper $1.50. 1475

Contents: The objectives and demonstrated value of nutrition surveys. Dietary surveys and their interpretation. Chemical tests and their interpretation. Clinical diagnosis in nutrition surveys. The role of surveys in community nutrition programs. Nutrition surveys in relation to professional training in schools of medicine and public health. The role of health departments in nutrition surveys and appraisal. Bibliography

Note. Organized surveys of the nutritional status of selected human populations are an important research tool in public health and medicine because, if properly conducted, they reveal dietary inadequacies of nutritional deficiencies of large groups. In this work the objectives, organization and uses of such surveys are authoritatively discussed. Sample forms are included and each of the parts includes a bibliography. In addition, the fourth part contains a special bibliography of clinical publications on diseases and syndromes which are or may be related to malnutrition.

NEW YORK ACADEMY OF MEDICINE. EASTERN STATES HEALTH EDUCATION CONFERENCE

Biological foundations of health education. Proceedings of the Eastern States Health Education Conference, April 1–2 1948. New York Columbia University Press, 1950. 169 p. illus. 21 cm. $2.50. 1476

Contents: Health education, yesterday and today by C. E. Turner. Malnutrition—its nature, causes, and significance, by H. D. Kruse. Diet in pregnancy by F F Tisdall. Nutrition in health education, by F. J. Stare. Backgrounds for psychiatry by P V Lemkau. Contribution from the psychiatric standpoint, by G. S. Stevenson. The psychiatric social worker's contribution, by E. L. Ginsburg.

tology and nutrition, by C. M. McCay Orientation in gerontology by E. J. Stieglitz. The growth and aging processes, by C. A. Schaffenberg. Epidemiology by A. D. Langmuir. Strategic concepts in epidemiology by H. A. Schneider. An epidemiological approach to chronic diseases through family studies, by A. Ciocco. The social philosophy of health, by E. L. Bartz.

Note: A collection of original papers written around the central idea of bringing significant biological data to the attention of persons concerned with health education. There are a few footnote references to related literature but no formal bibliography and no index.

NEW YORK ACADEMY OF MEDICINE. INSTITUTE ON PUBLIC HEALTH 1947

Ecology of health. Edited by E. H. L. Corwin. New York The Commonwealth Fund, 1949 196 p. 21 cm. $2.50 1477

Contents: Genetics and the public health. Maternal health and nutrition—a problem in preventive medicine. Animal and insect reservoirs of disease. Climate, geography and disease. Realism in preventive psychiatry Trends in state and local health service. The hospital survey and construction act and a nation-wide health program, by H. Emerson. The preparation of professional workers in the field of public health, by C.-E. A. Winslow Education of the layman in health responsibilities, by F Babbitt. Index.

Note: Except for the three chapters for which particular authors are indicated in the above table of contents, the chapters of this book consist of facts and ideas gathered from various papers and discussions that occurred at the Institute. These composite chapters are described in the book's foreword as "distillates of the discussions." The book as a whole presents a synthesis of current thought in the United States of America on the aspects of public health named in the chapter titles. The presentation is largely nontechnical, hence the book may be read by anyone with a general interest in the field. The chapters are supplemented by selected lists of references.

PUFFER, RUTH RICE

Practical statistics in health and medical work. Foreword by Hugo Muench. New York McGraw-Hill Book Company Inc., 1950 238 p. illus. 21 cm. (McGraw-Hill series in health science, Amos Christie, consulting editor) $4.50 1478

Contents: Value and uses of statistical data. Planning of program, study or experiment. Methods of handling statistical data. Presentation of data. Elementary statistical method. Study and utilization of prevalence data. Method of study of development of disease in limited period of time. Method of study of development of disease in observed population over period of time. Method of study of life experience of specific group. Method of study of cases over a period of time. Studies of illness in the population. Development and utilization of industrial statistical data. Statistical phases of control programs. Index

Note. As the title indicates, this is a book on practical applications of statistical methods and data in medicine and public health work. It is introductory to the subject in the sense that no previous acquaintance with statistical methods on the part of the reader is assumed. The treatment is broad enough to give the reader a view of the scope of applied biostatistics in these fields and to enable him to set up a practical statistical program. Literature references are included in the chapters. The author is Director of the Statistical Service of the Department of Health of the state of Tennessee.

SCHRENK HELMUTH HERMAN AND OTHERS

Air pollution in Donora, Pa. Epidemiology of the unusual smog episode of October 1948 Preliminary report, by H. H. Schrenk, Harry Heimann, George D Clayton, W M. Gafafer and Harry Wexler Federal Security Agency Public Health Service, Bureau of State Services, Division of Industrial Hygiene. Washington, D C Government Printing Office, 1949 173 p. illus. 30 cm. (United States. Public Health Service. Public health bulletin no. 306) Paper $1.25 1479

Contents: Origin of study Introduction: The Donora area. Plan of investigation. Biological studies: Acute episode. Collection of data. The acute illness. Related studies. References. Long term effects: Oral structures. Morbidity and mortality References. Atmospheric studies: Investigation of atmospheric contaminants: Collection and determination. Evaluation of plant effluents. Atmospheric pollution from domestic sources, steamboats, trains, and automobiles. General atmospheric pollution. Meteorological investigation Micrometeorology of the Monongahela River Valley vicinity of Donora. The Donora smog episode of late October 1948. References. Meteorological conditions and atmospheric contaminants. Discussion of cause of episode: Substances studied. Single substances. Combination of substances. Summary and recommendations. Appendix.

Note This bulletin presents a report of the results of five months of intensive field work by a team of 37 investigators from the Division of Industrial Hygiene of the U S. Public Health Service and the U S. Weather Bureau following the lethal smog which settled down over the area surrounding the industrial town of Donora, Pa., October 27–31 1948, and led to the death of 20 persons and the illness of several thousand more. The investigation is said to have been the most exhaustive ever made on a problem of air pollution, every facet of the problem was examined, including effects upon health as well as the cause of the fatalities The objectives of the study were (1) to ascertain the cause of the episode, and (2) to obtain information applicable to preventing future occurrences of similar nature. Consideration was also given to obtaining data of a fundamental nature relating to the general problem of atmospheric pollution. The work is potentially of interest to public health officials, engineers, and others who are professionally concerned with atmospheric pollution.

SHEPARD WILLIAM PEACEY, AND OTHERS

Essentials of public health. By William P Shepard. With the collaboration of Charles Edward Smith, Rodney Rau Beard and Leon Benedict Reynolds. With a foreword by Ray Lyman Wilbur Second edition. Philadelphia J B Lippincott Company 1952 581 p. illus. 20 cm. $6.50 1480

Contents: Public health and the practicing physician. Environmental sanitation Communicable disease—general, by C. E. Smith. Special communicable disease control. Other public health problems. The school health service. Health education. Occupational health—industrial hygiene. Occupational health—light, heat, ventilation, by R. R. Beard. Statistics, by R. R. Beard. The physician and the public health nurse. Index.

Note (1297*) Although intended as a condensed handbook of the scope of public health and its chief methods, a wide range of information both general and specific has been packed into this work. The chapter on environmental sanitation contains sections on water supply sewerage disposal, refuse disposal, food hygiene, and insect control. All of these topics are treated from the public health standpoint but enough technical information is included to give the reader the necessary background information about how such processes as sewage treatment operate. Much reference data on such topics as infant mortality rates are included. The relations between official agencies and voluntary agencies in the various fields of public health in the United States of America are described. The book is addressed to medical practitioners and medical students and its purpose is to inform such readers about public health and to enlist them to the use and support of public health work. The first edition was published in 1948. In preparing this second edition the final chapter on the physician and the public health nurse was added, statistical data were revised, and recent literature was added to the bibliographies.

SMILEY DEAN FRANKLIN, AND ADRIAN GORDON GOULD

Your community's health. A revision of *Community hygiene.* New York The Macmillan Company 1952 454 p. illus. 22 cm. $5.50. 1481

Contents (abridged) Section I, A record of progress. Section II, Controlling health hazards in our environment: Combatting infection from person to person. Controlling sources of infection in animals. The fight against insect borne diseases Making indoor and outdoor air safer. The health significance of soil. A sanitary water supply The communities' interest in housing. Food and restaurant

sanitation. Section III, The community attack on specific diseases and disorders Community problems in mental hygiene. Community problems in sex hygiene. The care of the chronically ill. Section IV Meeting the needs of specific population groups: Health protection in infancy childhood, and maternity Better medical facilities for rural dwellers. Protecting the health of our urban dwellers. Making old age happier. Section Agencies for improving health and welfare: Your doctors, dentists, nurses, and hospitals. Your public health agencies. The drug industry Your social and welfare agencies. Your community recreational agencies. A look ahead. Suggested list of sources of motion pictures on selected health subjects. Index.

Note: (1924) A textbook written at the college level, but so [illegible] so that it is useful also as an elementary reference book in public libraries, etc. The viewpoint is that of the educated citizen interested in public health rather than of students who are preparing to make their careers in this field. Contemporary problems in the United States of America and techniques useful in solving them are covered in lucid style. Selected references to professional literature are provided in the form of footnotes, and lists of suggested reading useful to the non-specialist are given at the ends of chapters. The preceding edition was published in 1941 Extensive revision was made throughout the text in preparing this edition.

SMILLIE, WILSON GEORGE

Preventive medicine and public health. Second edition. New York The Macmillan Company 1952 603 p. illus. 24 cm. $7 50 1482

Contents (abridged) Section I, Introduction. Population trends and the public health. Vital statistics. Section II, Environmental sanitation. Water supplies and swimming-pool sanitation. Excreta disposal. Vermin and their control. Food inspection. Disease transmitted through food other than milk and milk products (food poisoning) Housing and its relation to health. Section III, Communicable disease control Epidemiology Control of the communicable diseases of childhood. Control of acute respiratory infections. Control of enteric infections. Control of tuberculosis and leprosy Venereal diseases. Section IV Child hygiene. Section Adult health protection and promotion Mental hygiene. Malnutrition and its prevention. Industrial hygiene. Geriatrics. Section VI, Public health administration Administration of local health services. Rural health administration. National health services. Voluntary health activities. The public health [illegible]. Medical social work. A nation-wide medical care program. Index.

Note: (1299*) An outstanding text for use in schools of medicine. The author has stressed the fact that it is not designed for public health personnel. The major thesis is that the main obligation of the physician is to keep all people well not only by means of his contacts with patients but also by promotion of family and community health. Much attention is given to the social and economic factors involved in the maintenance of health. However there is also considerable information on specific clinical techniques. The present edition represents very substantial revision with added material on premature babies, child health in general, accident prevention, health protection of the young adults and many other topics. The references to literature have been revised.

SYMPOSIUM ON NUTRITION FRONTS IN PUBLIC HEALTH

Nutrition fronts in public health proceedings of the Nutrition Symposium held at Yale University, November 10 1950 New York The National Vitamin Foundation Incorporated 1951 168 p illus. 23 cm. $1.50 paper 1483

Contents (abridged) Nutrition and maternal health, by [illegible] Factors conditioning the development of malnutrition, by [illegible] Nutrition as factor in aging, by C. M. McCay [illegible] Influence of nutrition on work performance by [illegible] Nutrition and resistance—susceptibility to infection, by H. A. Schneider Nutritional factors and hormones in stress reactions, by [illegible]

Note. This volume contains the original papers which were presented [illegible] symposium attended by professional workers in the [illegible] Pennsylvania Maryland, [illegible]

Note: In th[illegible] need for research [illegible] health programs especially the [illegible] Research methods [illegible] fields of nutrition research and public health. The public health aspect is stressed in all of them. Bibliographies and transcripts of discussions are included.

WENSLEY, EDITH

The community and public health nursing a handbook for and about boards and citizens committees For the National Organization for Public Health Nursing. New York. The Macmillan Company 1950 250 p. illus. 21 cm. $3 50. 1484

Contents (abridged) Part I, Public health nursing—background: A bit of history Public health nursing today Trends. Part II, Boards and citizens committees—their responsibilities and organization: A citizens committee for the public health nursing service of health department or other governmental agency Responsibilities of board of directors in voluntary agency Schoolboards and school nursing. Officers and committees of board of directors. Who shall be members? And how long? Part III, Boards and citizens committees—how their responsibilities are carried out: Meetings—how to make them interesting and productive. Board-executive-staff relationships. Finances. Public relations. Interagency relationships. Appendices. Index.

Note: Information about public health activities and about the functions and responsibilities of citizens serving on boards and committees of public health agencies is contained in this work, successor to the (1305) National Organization for Public Health Nursing's *Board members' manual*, second edition, 1937 The particular purpose of the book is to inform members of advisory committees of official agencies and of boards of voluntary agencies, but it [illegible] also to public health personnel who work with members of such committees and boards. The book depicts public health practices and organization in the United States of America.

WILLIAMS RALPH CHESTER

The United States Public Health Service, 1798–1950 Washington D C. Commissioned Officers Association of the United States Public Health Service, 1951 890 p. illus. 26 cm. $10 00. 1485

Contents. Origin and background; hospitals. On guard against disease from without. The evolution of public health. Public health laboratory research. Field studies and demonstrations in public health. Intragovernmental relationships. International health [illegible] them. Leadership and leaders. Those who carry on. When war came. World War II. Public health in the mid-twentieth century. Source of material. Index.

Note A factual history of the origin, evolution, organization, and activities of the U S. Public Health Service and of its predecessor the U S. Marine Hospital Service, written by the Assistant Surgeon General. It is based both upon manuscript and printed records and upon abstracts, statements, sketches, and other material submitted by large number of active and retired officers and employees. The 191 illustrations include numerous portraits.

WINSLOW CHARLES-EDWARD AMORY

Man and epidemics. Princeton New Jersey Princeton University Press, 1952 246 p. illus. 22 cm. $4 00. 1486

Contents: The evolution of the public health program. Objectives and approaches. The problem of pure water. Disposal of human wastes. Milk supply Sanitary problems of food supply Insects and the transmission of disease. Synopsis of the past. Challenges of the future. References. Index.

Note. A narrative account of the public health movement, its techniques and some of its achievements. The style is factual and moderately technical. The book is suitable for reading and elementary reference by teachers, journalists, and the general public. The author is Professor Emeritus of Public Health in Yale University.

PHARMACY

American Council on Education

Pharmaceutical survey The general report of the pharmaceutical survey, 1946–49 Edward C. Elliott, director Washington, D C. American Council on Education 1950 240 p. illus. 27 cm. $6.00 1487

Contents (abridged) Part I, The pharmaceutical survey. Part II, American pharmacy Part III, The educational system. Part IV The student quality Part The pharmaceutical curriculum. Part VI, The prescription study Part VII, Professional licensure. Part VIII, Alumni data and reaction. Part IX, Pharmacy in action. Part X, Retail pharmacy projects. Part XI, The findings and recommendations. Postscript. Index.

Note. The final publication of unit of the American Council on Education that was set up in 1946 to study pharmaceutical education and the requirements of the practice of pharmacy particularly in the United States of America. The chief viewpoint is that pharmacy has become profession that plays significant part in the maintenance of health and that the educational preparation and requirements for entering the profession need adjusting accordingly A wide range of data and opinion was collected in the course of the survey and is summarized in this work. The assembled information bears not only on educational aspects but also on such matters as the incomes of pharmacists now practicing, the probable effects of the current tendency of retail drugstores in the U. S. A. to become department stores in miniature, the effects of chain store retailing of drugs, etc.

Burlage, Henry Matthew and others

Fundamental principles and processes of pharmacy by Henry M. Burlage, Joseph B Burt, Charles O Lee and L. Walt Rising Second edition. New York McGraw Hill Book Company Inc. 1949 651 p. illus. 21 cm. $7.50 1488

Contents (abridged) Historical development of the profession of pharmacy by C. O. Lee. Ethical principles for the practice of the profession of pharmacy by H. M. Burlage. The pharmaceutical curriculum, by H. M. Burlage. The branches of and opportunities in pharmacy by H M. Burlage. The essential pharmaceutical literature, by C. O. Lee. Metrology by J. B. Burt. The physical properties of matter, by J B. Burt Theory generation, and control of heat, by J. B. Burt. Applications of, and processes involving heat, by J B. Burt. Solutions, by L. W Rising. The colloidal state, by L. W Rising. Emulsification and emulsions, by C. O Lee. Extraction, by C. O. Lee. Precipitation, crystallization, and granulation, by L. W Rising. Mechanical subdivision of drugs, by L. W Rising. The separation of substances by mechanical means, by H. M. Burlage. The storage and preservation of drugs, by L. W Rising. The natural products used in pharmacy by C. O. Lee Appendix A suggested list of books for the pharmacist's library Minimum standard equipment for pharmacy Pronouncing and subject index.

Note: (2148) A successful introductory textbook planned so as to give the beginning pharmacy student broad outline of the professional subjects he will study in his academic program. As the title indicates, the book deals with principles and processes rather than drugs, although the final chapter does provide an introductory survey of classes of drugs. There is considerable emphasis on the pharmaceutical literature The first edition was published in 1944 Chapter titles and contributors' names in this second edition are identical with those in the first edition. However, changes have been made in the text of several chapters and in the bibliographical matter. The length of the book has been increased by 35 pages.

Cook Ernest Fullerton and Eric W Martin

Remington's Practice of pharmacy a treatise on the preparing, standardizing, and dispensing of official, unofficial, and extemporaneous pharmaceutical products, with descriptions of medicinal substances, their properties uses and doses. Also a guide to other professional services rendered by the pharmacist in connection with community health. Intended for the use of pharmacists and physicians and as a textbook for students. Over eight hundred illustrations. Tenth edition. With the collaboration of more than ninety associates. Easton, Pa. The Mack Publishing Company 1951 1616 p. illus. 29 cm. $16.00. 1489

Contents (abridged) Pharmaceutical background. Technical operations in pharmacy Galenicals and other pharmaceutical preparations. Inorganic chemicals. Organic chemicals. Testing and analysis. Laws governing pharmacy Professional pharmacy The pharmacist in public health service. Business methods of pharmacy Hospital pharmacy Manufacturing pharmacy Biological products. Perfumery and cosmetics. Appendix: Useful formulas. Poisons and antidotes. Glossary of medical terms. Pharmaceutical manufacturers. Index.

Note: The first edition of this comprehensive and widely-used text and reference manual was published in 1885. As with each succeeding edition, this volume has been revised to conform to the latest *United States Pharmacopeia* XIV and the *National Formulary* IX edition. Antiquated remedies and obsolete processes have been eliminated, and much new material added on research in pharmacy pesticides, radioactive isotopes, and antibiotics Extensive rewriting has been accomplished in the chapters on sterilization, ophthalmic solutions, labeling regulations, venereal disease control, and business methods An important feature of this edition is the inclusion of information on therapeutic action and dosages. A very full index is again provided.

The Dispensatory of the United States of America

The Dispensatory of the United States of America, 1950 edition. By Arthur Osol and George E. Farrar Jr with E. Emerson Leuallen, Willard F Verwey Heber W Youngken and David K. Detweiler Advisory editor Horatio C. Wood, Jr Complete in two volumes. Volume one Based on the thirteenth revision of The United States Pharmacopoeia, The National Formulary eighth edition, and The British Pharmacopoeia, 1932 and its addenda. Volume two Being a commentary on the new drugs introduced in the fourteenth revision of The United States Pharmacopoeia, The National Formulary ninth edition, The British Pharmacopoeia, 1948 as well as the new drugs not officially recognized. Philadelphia J B Lippincott Company 1950 2057 p. 27 cm. $25.00. 1490

Contents (abridged) Volume one. Part one: Drugs recognized by The United States Pharmacopoeia—The Pharmacopoeia of Great Britain or The National Formulary Part two Drugs not official in The United States Pharmacopoeia—The Pharmacopoeia of Great Britain, or the National Formulary Part three: General tests, pro-

ceous, reagents and solutions. Part four: Veterinary uses and doses of drugs. Part five: Tables of The United States Pharmacopoeia or The National Formulary. Supplement of changes authorized by the First U.S.P. XIII shoot supplement and The First supplement to The National Formulary eighth edition. Index. Volume two. Part six: In which are described new drugs of the fourteenth revision of The United States Pharmacopoeia, The National Formulary ninth edition, and The British Pharmacopoeia, 1948, that heretofore have not had official status, also certain other official drugs for which important new data have recently become available. Part seven. New drugs not official in The United States Pharmacopoeia, The Pharmacopoeia of Great Britain, or The National Formulary. Index.

Note. (499*) This 1950 edition" of an authoritative reference book consists of two volumes as noted in the title. The first volume contains the text of the 24th edition copyright in 1947 and apparently reprinted without change. The scope of the second volume is indicated in its title. In this second volume there are no innovations in organization or in the material included on each drug listed; but many of the drugs described in it have not appeared in the *Dispensatory* heretofore. The complete 1950 edition consists of the two volumes bound in one cover as described here. Volume two is also offered in separate binding at the price of $5.00. The two volumes do not have common index.

JENKINS GLENN LLEWELLYN AND OTHERS
Quantitative pharmaceutical chemistry, by Glenn L. Jenkins, Andrew G DuMez, John E. Christian, and George P Hager Third edition. New York McGraw Hill Book Company Inc. 1949 531 p. illus. 21 cm. (McGraw Hill publications in pharmacy) 1491

Contents (abridged) Part 1 General methods used in official pharmaceutical analyses. Gravimetric analysis. Principles of titrimetric (volumetric) analysis. Alkalimetry Acidimetry Precipitation methods. Oxidation-reduction methods. Gasometric methods. Part 2 Physical methods used in official pharmaceutical analyses: Solubility Specific gravity and density Melting, congealing, and boiling temperatures. Refractometric measurements. Rotatory power Viscosity measurements Photometric methods of analysis. Determination of hydrogen ion concentration. Electrolytic methods. Part 3 Special methods used in official pharmaceutical analyses Ash and moisture determinations. Extractive and crude fiber content. Constants of fats, fatty oils, waxes, balsams, resins, etc Assay of volatile oils. Alkaloidal assaying. Official type methods Alkaloidal assays by special methods. Assay of enzyme-containing substances. Appendix. Index.

Note (2141) The book is both text and reference manual. Typical chemical and physical methods which are recognized as official by the *United States Pharmacopoeia* and the *National Formulary* are presented and in addition some nonofficial methods of analysis which are widely used are covered. *Laboratory procedures are described* in detail. The second edition was published in 1937. This edition has been revised so as to incorporate revisions in the official methods published in U.S.P. XIII and N.F. VIII. The reference material includes more than seventy tables of organized information.

JENKINS GLENN LLEWELLYN AND OTHERS
Scoville's The art of compounding. By Glenn L. Jenkins Don E Francke, E. A. Brecht and Glen J Sperandio Eighth edition. New York The Blakiston Company 1951 515 p. illus. 26 cm. $7 50 1492

Contents: The prescription Nomenclature and vocabulary Powders, capsules, and effervescent salts. Pills Tablets. Lozenges and similar preparations. Simple, compound, and stock solutions. Percentage, saturated, and gaseous solutions Adjusted solutions. Parenteral solutions. Solutions for special application. Colloidal solutions. Allergenic solutions. Liquids containing insoluble substances. Emulsions. Ointments and ointment-type preparations. Suppositories. Miscellaneous external preparations. Sterilization and disinfection. Homeopathic pharmacy Therapeutic and physical incompatibilities. Chemical incompatibilities. Incompatibilities of organic substances. Index.

Note. (2145) A standard reference manual and textbook for practicing pharmacists and pharmacy students first published in 1895. Emphasis is placed on the practical aspects of the subject with detailed descriptions of techniques and equipment employed in the preparation of powders, pills, capsules, tablets, etc Basic principles underlying each operation are also discussed. Numerous prescriptions and standard formulas are included to illustrate the range of application. This edition has been extensively revised and the subject matter rearranged. New chapters on solutions for special purposes and allergenic solutions have been added, and the chapters on solutions, parenteral solutions, sterilization, and incompatibilities have been expanded.

KREMERS, EDWARD, AND GEORGE URDANG
History of pharmacy a guide and a survey Second edition revised and enlarged. Thirty illustrations. Philadelphia J B Lippincott Company 1951 622 p. illus. 24 cm. $7.50. 1493

Content (abridged): Part One, Early backgrounds in the Old World. Part Two, The rise of professional pharmacy in Europe Medical theories and materia medica. The development in Italy. The development in France. The development in Spain. The development in Germany The development in England. International trends. Part Three, Pharmacy in the United States The North American colonies. The Revolutionary War. The young republic and pioneer expansion. The growth of associations. The rise of legislative regulation. The development of education. The establishment of literature. Economic structure. Part Four Discoveries, inventions and other contributions to society by pharmacists: The American pharmacist and society Contributions by pharmacists to science and industry Bibliography Chronology Appendix. Index.

Note (2142) A book designed for use as text in supplementary reading by college students of pharmacy but which is so inclusive in scope that it has reference value also. Particular attention appears to have been given to presenting the development of the profession of pharmacy as a phenomenon of developing society; thus there is considerable background material on cultural and political history Reference features in addition to the research text proper are the bibliography an international chronology 40 page appendix containing very short biographical sketches of men who contributed to the development of pharmacy notes identifying standard pharmaceutical publications, and definitions of selected pharmaceutical terms. The first edition was published in 1940. In this edition a chapter on the development of pharmacy in Spain has been added and the other chapters have been revised and enlarged, some of them very substantially

LYMAN, RUFUS ASHLEY editor
American pharmacy: fundamental principles and practices, pharmaceutical preparations. Editor in-chief Rufus A. Lyman. Advisory editors, James M Dille and others. Consulting editor, George Urdang. Third edition. Philadelphia J B Lippincott Company 1951 505 p. illus. 27 cm. $8.00. 1494

Contents: Part one, Fundamental principles and processes: Metrology Specific gravity and specific volume. Heat and refrigeration. Purification and clarification. The mechanical subdivision of drugs. Extraction [illegible] Solutions. Colloids, emulsions, and suspensions Waters, syrups and [illegible]. Part two, Pharmaceutical preparations: [illegible] Juices. Solutions, injections, and ampuls. Inhalants and [illegible] Mucilages, creams, glyceroogelatins, glycerites, collodions. Mixtures, magmas, and gels Soap and cleanser. Liniments, lotions, [illegible] and sprays. Ointments, cerates, plasters, cataplasms. [illegible] positories. Spirits and elixirs. Vinegars, tinctures, fluidextracts, [illegible] glycerates, and extracts. Resins and oleoresins. Masses, pills, troches and tablets. Powders, capsules, cachets, and [illegible] candy medication and triturations. Effervescent salts. Index.

Note. As the title indicates, this college text is concerned with the basic principles of pharmacy and with the methods for compounding broad groups of pharmaceuticals. No attempt is made to cover the business aspects of pharmacy or to describe the properties of specific drugs as is done so comprehensively in Remington's *Practice of pharmacy*. Each chapter is the work of a professor of pharmacy associated with a leading American university.

LYMAN RUFUS ASHLEY, editor-in-chief
Pharmaceutical compounding and dispensing. Editor in-chief Rufus A Lyman advisory editors James M. Dille and others. Technical editor George Urdang Philadelphia. J B Lippincott Company 1949 321 p. illus. 26 cm. (Lippincott's American pharmacy series) $6 50 1495

Contents: Dispensing through the ages, by G. Urdang. The prescription, by E. M. Plein. Accuracy in dispensing, by L. M. Ohmart. Dosage forms, by L. M. Ohmart. Dermatologic pharmaceuticals, by L. C. Zopf. Solutions, by J. B. Sprowls, Jr. Solubility, by T. Higuchi. Incompatibility and the incompatibilities of inorganic compounds, by L. W. Busse. Incompatibilities of organic compounds, by D. E. Wurster. Prescription packages and labels, by J. W. Sturgeon. Prescription pricing, by W. P. Briggs. Inter-professional relations, by P. A. Foote. Index.

Note: Although a good deal of specific information on the ingredients of standard prescriptions, solubilities of various compounds, and incompatibilities is presented, this work is essentially a presentation of basic scientific principles and techniques. Its main purpose is the development of a general understanding of pharmaceutical dispensing. The authors include prominent teachers in colleges of pharmacy and an eminent authority on pharmacy packaging. Each chapter includes a short list of literature references. There are 16 tables of reference data.

MERCK & COMPANY, INC.

The Merck index of chemicals and drugs: an encyclopedia for the chemist, pharmacist, physician, and allied professions. Sixth edition. Rahway, N. J.: Merck & Co., Inc., *1952*. 1167 p. illus. 24 cm. $8.00 thumb index edition; $7.50 plain edition. 1496

Contents (abridged): Abbreviations. Chemicals and drugs. Organic "name" reactions. Radioactive isotopes used in medical therapy and diagnosis. Coal-tar colors (dyes) for foods, drugs, and cosmetics. Indicators for volumetric work and pH determinations. Mixed indicators. Universal indicators. Absorption indicators. Oxidation-reduction indicators. Standard buffers for calibration of pH meters. pH values of standard solutions. Equivalents of the metric and U. S. systems of measures and weights. Comparison of United States, British imperial, and metric systems of liquid measures. Concentration of acids and bases. Thermometric equivalents. Specific gravity comparisons. Anti-freeze mixtures. Cooling mixtures. Constant humidity solutions. Boiling temperatures of liquids. Melting points of some organic liquids. Refractive index (n_D) of liquids. Specific gravity of liquids. Specific gravity of solids. Weight of liquids per gallon. Volumetric dilutions. Percentage solution tables. Alchemical symbols used in biology and botany. Weights and logs of elements and groups and their multiples.

Note: (2163) A widely-used encyclopedic reference book of chemicals and drugs primarily of interest to medical practitioners and pharmacists. Most of the space (1025 pages in this edition) is occupied by a dictionary of terms. Here are entered in one alphabet short statements of information about specific chemicals and drugs together with cross references from synonyms. Data given in a typical listing include the *chemical formula, synonyms,* molecular weight, color, odor, specific gravity, boiling point, solubility, medical uses, dosage, and industrial uses. If a chemical is commercially available there is a statement to this effect. The remaining pages are devoted to useful tables, formulas and other data frequently used in working with and dispensing drugs. The fifth edition appeared in 1940. The present edition is an extensive revision in which matter carried over from the previous edition has been thoroughly revised and 2900 new entrys have been added. Among the material added to the supplementary lists and tabulations is a useful compendium of standard organic reactions known by name such as Arndt rearrangement.

PARKS, LLOYD M., AND OTHERS

Inorganic chemistry in pharmacy, by Lloyd M. Parks, Paul J. Jannke, and Loyd E. Harris. With a chapter on isotopes by John E. Christian. Philadelphia: J. B. Lippincott Company, 1949. 298 p. illus. 26 cm. $6.00 1497

Contents: Introduction. The periodic table. Elements of Group VII. Metallic halides. Hydracides (oxyacids) of Group VII, and their salts of pharmaceutical importance. Elements of Group VI. Metallic oxides. Metallic sulfides. Hydracides (oxyacids) of Group VI and their salts of pharmaceutical importance. Elements of Group V. Hydracides (oxyacids) of Group V and their salts of pharmaceutical importance. Elements of Group IV. Hydracides (oxyacids) of Group IV and their salts of pharmaceutical importance. Elements of Group III. Elements of Group II. Elements of Group I. Elements of Group VIII. The isotopes of the elements and their uses in pharmacy, pharmaceutical research and medicine. Index.

Note: A textbook expressly written for use in courses given in colleges of pharmacy. The authors' state "It . . . presupposes a knowledge of general chemistry and qualitative analysis, and may be described briefly as a review of certain principles of inorganic chemistry with special reference to the preparation, properties, testing, and uses of inorganic chemicals applied in pharmacy and medicine." Most of the chapters are directly related to various editions of the *National Formulary* and the *United States Pharmacopeia.* There are 60 tables of reference data.

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA

The pharmacopeia of the United States of America (The United States pharmacopeia). Fourteenth revision (U.S.P. XIV) and the first U.S.P. XIV supplement. By authority of the United States Pharmacopoeial Convention, Inc., meeting at Washington, D. C., May 14 and 15, 1940. Prepared by the Committee of Revision and published by the Board of Trustees. Official from November 1, 1950. Easton, Pa.: Mack Publishing Company, 1950. 1071 p. illus. 23 cm. $9.00 1498

Contents (abridged): The history of the United States Pharmacopeia. General principles for revision. Articles added to the U.S.P. XIV. Articles official in the U.S.P. XIII but not admitted to the U.S.P. XIV. Changes in official English titles. U. S. pharmacopeial titles in English and Spanish. Monographs on vegetable and animal drugs, chemicals and preparations. General tests, processes, and apparatus. Reagents, test solutions, colorimetric solutions, indicators, volumetric apparatus, volumetric solutions, and pH measurements. Tables. Index.

Note: (222*) The official description of medicinal drugs for the pharmacy profession of the United States of America. In this revision the format and scope of the previous edition have been retained, with the monographs on drugs, chemicals, and preparations accounting for most of the work's length. Two hundred and two new monographs have been added, and one hundred and nineteen items which appeared in U.S.P. XIII have been deleted. Supplementary sheets are issued from time to time.

PRATT, ROBERTSON, AND HEBER W. YOUNGKEN, JR.

Pharmacognosy: the study of natural drug substances and certain allied products. 67 illustrations, including 4 plates in full color. Philadelphia: J. B. Lippincott Company, *1951*. *644* p. illus. (part col'd) *24* cm. $8.50 1499

Contents: Part 1, General aspects of pharmacognosy: definitions and sources of drug materials. Part 2, An introduction to cellular chemistry. Organic products of cellular synthesis. Part 3, Utilization and classification of drugs. Part 4, Biosynthetic products and certain of their derivatives—physiologic and pharmaceutical applications: Drug substances derived from plants and animals. Plant and animal products that directly affect the gastro-intestinal tract. Plant and animal products that promote systemic effects on the muscle, the nervous and the circulatory systems. Natural products used chemotherapeutically for the treatment of infectious diseases. Natural products used for diagnosis, prophylaxis and therapy in specific noninfectious maladies. Part 5, Practices and procedures: Production of crude drug materials. Preservation and protection of crude drugs. Evaluation of crude drugs. Part 6, Pest and weed control—problems in public health. General statement of the problem and public health aspects of applied measures for pest control. The control of insects. The control of rodents. The control of fungi, weeds and other plants. Appendix. Index.

Note: An introductory textbook for undergraduate students of pharmacy. It is concerned with drug materials which are biologic in origin, and it deals with their chemical, physical, and physiological properties and with their evaluation and applications in medicine and public health. Most of the space is given to descriptions of drugs and of specific drugs. However, this information is always presented against a background of basic biochemistry and is related to applications. The illustrations are of good quality and extensive reference lists are included with most of the chapters.

ROGERS, CHARLES HERBERT, AND OTHERS

A text-book of inorganic pharmaceutical chemistry By Charles H. Rogers, Taito O Soine and Charles O Wilson. Fifth edition, thoroughly revised, with 22 illustrations Philadelphia Lea & Febiger, 1952 850 p. illus. 24 cm. $10 00 1500

Contents (abridged) Oxygen and ozone. Hydrogen. Water and hydrogen peroxide. Nitrogen, nitrous oxide and ammonia. The halogen family The alkali metals. The coinage metals, copper silver and gold. Beryllium and magnesium and their compounds. The alkaline earth metals. Boron, aluminum and metals of group III. The elements of group IV The phosphorus family Group VI. Iron, cobalt and nickel. Platinum metals and their compounds. The inert gases. Radioactivity and radioactive elements. Appendix. Index.

Note. (891) A comprehensive textbook for pharmaceutical students and reference book for pharmacists and physicians. The elements and their inorganic compounds are presented in short descriptions covering history occurrence, physical and chemical properties, tests for identity methods of preparation, and medical uses. However, the background information is given equal emphasis with that which bears directly on pharmacology In its fifth edition the length of the book has been increased approximately 150 pages. Concise descriptions of procedures for quantitative determinations omitted in the fourth edition have been reintroduced and there are numerous other changes. The bibliographic references presented in footnotes are brought up to date.

STOCKING CHARLES HOWARD AND ELMON L CATALINE

Arithmetic of pharmacy Based on the original text by Alviso B Stevens Eighth edition. New York D Van Nostrand Company Inc. 1952 148 p. illus. 24 cm. $2 75 1501

Contents: Weights and measures. Specific gravity and specific volume. Weight—volume. Percentage solutions. Dilution and concentration. Reducing and enlarging formulas. Additional calculations pertaining to prescriptions. Conversion of temperatures. Commercial calculations. Chemical calculations. Appendix. Index.

Note: (2167) A long-established introductory textbook for students and reference book for beginning pharmacists. It covers chiefly the arithmetical calculations that are used in connection with the compounding of medicines on prescription. Many worked examples are included, and there are also problems for the student to solve. The work has been considerably revised and reorganized in the present edition.

UNIVERSITY OF CALIFORNIA

Hospital formulary and compendium of useful information. Second edition completely revised. Berkeley and Los Angeles University of California Press 1952 317 p. 17 cm. Paper $3 75 1502

Contents. Prescription writing and conversion tables. Size of prescriptions and orders. Drugs subject to Federal and state regulations. Buffered and isotonic solutions. Therapeutic index. Drug list. Parenteral solutions. Biologicals. Pediatric therapeutic index and procedures. Dental formulas. Parasitologic procedures. Antiparasitic agents and their administration. Procedures for X ray examination. Contrast media used in radiology Laboratory and clinical procedures. Treatment of acute poisoning. Miscellaneous tables. Index.

Note. The scope of this reference handbook is indicated by the chapter titles. Although designed primarily for the personnel of the University of California Medical Center it is potentially useful to the staff of other hospitals and also to graduate physicians practicing independently Each of the chapters is a compact arrangement of useful information. The drug list contains precise descriptions of not only drugs which are listed in the *United States Pharmacopoeia*, the *National Formulary* and *New and Non-Official Remedies*, but also of some non-official drugs used in the medical center. The appendix includes an index of proprietary and common drug names which are different from the official names.

WILSON, CHARLES O, AND OLE GISVOLD, editors

Organic chemistry in pharmacy Philadelphia J B Lippincott Company 1949 622 p. illus. 26 cm. $9 00 1503

Contents: Introduction, by C. O. Wilson and O. Gisvold. Physical properties in relation to biologic action, by T. C. Daniels and W. D. Kumler. Metabolic changes of drugs and related organic compounds in the body (detoxication) by T C. Daniels and W D. Kumler. Aliphatic and cycloparaffin hydrocarbons, by A. Taub. Aliphatic halogenated compounds, by A. Taub. Aliphatic hydroxy-containing compounds, by C. O. Wilson. Aliphatic ethers, by C. O. Wilson. Aliphatic and alicyclic aldehydes and ketones, by E. V Lynn. Aliphatic carboxylic acids and their derivatives, by C. O. Wilson. Aliphatic nitrogen-containing compounds, by E. V Lynn. Aromatic hydrocarbons, by C. O. Wilson. Aromatic halogenated compounds, by C. O. Wilson. Phenols and their derivatives, by O. Gisvold. Aromatic alcohols, aldehydes, ketones, ethers and quinones, by C. O. Wilson. Aromatic acids, their salts and esters, by C. O. Wilson. Aromatic nitrogenous compounds, by C. O. Wilson. Sulfur compounds, by T. C. Daniels and W. D. Kumler. Compounds containing metals, by T C. Daniels and W D Kumler. Heterocyclic compounds, by E. V Lynn. Dyes, by T C. Daniels and W D. Kumler Surface-active agents, by A. Taub. Terpenes and related compounds, by C. O. Wilson. Carbohydrates of saccharides, by O. Gisvold. Glycosides, by O. Gisvold. Steroids, by O. Gisvold. Plant alkaloids, by T O. Soine. Antibiotics, by E. V Lynn. Vitamins, by O. Gisvold. Proteins and amino acids, by E. V Lynn. Resins, oleo-resins, resins and balsams, by H. W Youngken, Jr. Index.

Note: A textbook written for use in courses offered to students who have completed a course in basic organic chemistry The authors state that they have attempted to include discussions of all products described in the U S P XIII, N F VIII and New and nonofficial remedies, as well as the most important pharmaceuticals reported in the periodical literature. In most of the chapters the general class of compounds under consideration is first discussed generally with particular reference to its chemical structure and properties, then the compounds of pharmaceutical interest are described individually In descriptions of the individual drugs, preparation, physical properties, medical uses and average dosages are covered. Literature references are given at the end of each chapter. The copy of the book that was furnished for review contained an 8 page "Supplement of new compounds, copyright 1952.

NURSING

GENERAL WORKS

BARRETT, JEAN

Ward management and teaching. New York Appleton-Century-Crofts Inc., 1949 399 p. 22 cm. $4.50 1504

Contents (abridged): Part I, The position of head nurse. Part II, The responsibility of the head nurse for the quality of patient care: The meaning of good nursing. Nursing care of the patient on admission to the hospital. Preparing the patient for discharge from the hospital. Planning a program for the improvement of nursing care. Part III The responsibility of the head nurse for good ward management: The factors involved in good ward management. The responsibility of head nurse for the physical environment. Providing supplies and equipment. Record keeping. Giving and receiving reports. Arranging duties and responsibilities. Part IV The educational responsibilities of the head nurse: General principles of ward teaching. The conference. Bedside clinic and teaching rounds. The demonstration. Evaluation of teaching and supervision. Part [illegible] The head nurse's responsibility to herself and her profession. Index.

Note: A textbook addressed primarily to nursing school graduates who are preparing to become head nurses in hospitals. The author is Director of the Department of Nursing Education of the Syracuse University School of Nursing.

BOYD, WILLIAM

An introduction to medical science an elementary text on pathology Fourth edition thoroughly revised, with 124 illustrations and 3 colored plates. Philadelphia Lea and Febiger 1952 304 p. illus. (part col d) 24 cm. $7.50. 1505

Contents (abridged) Part I, Some general principles: The evolution of medical science. The nature and causes of disease. Inflammation, immunity and allergy. Some bacterial infections. Tumors. Part II, The organs and their diseases. Part III, Practical applications: The principles of treatment. The collection of material for the laboratory. Index.

Note: A standard introduction for student nurses. Concise descriptions of common diseases are provided, together with discussions of causes, manifestations and symptoms, and principles of treatment. In this edition revisions have been made to cover recent developments in the fields of treatment and therapy and new sections have been added dealing with such topics as congenital heart disease, edema, shock, fluid balance, virus pneumonias, and dust diseases of the lungs. The author is Professor of Pathology in the University of British Columbia.

DAKIN, FLORENCE, AND ELLA M THOMPSON

Simplified nursing. 78 illustrations. Fifth edition. Philadelphia J B Lippincott Company 1951 730 p. illus. 21 cm. $4.00. 1506

Contents (abridged) Part one, Getting your bearings. Part two, Health is everybody's business. Part three, The human body in action: The living body. The skeletal system. The muscular system. The circulatory system. The digestive system. The respiratory system. The urinary system. The reproductive system. The endocrine system. The nervous system. The special senses. Part four, Family living: The patient is part of the family. What shall we eat? Special diets for special conditions. The child is a person, too. After 40—what? Mother and baby care. Part five, Illness and the home: Your patients and their illnesses. Mental disorders. Part six, Nursing is an art: The patient in his surroundings. Health and comfort measures for the patient. Information the doctor needs. Nursing treatments and medications. Care in emergencies. List of national organizations distributing health information. References for you. Glossary. Index.

Note: (1717) In this edition this useful book has been thoroughly rewritten and its scope considerably changed. The fourth edition, published in 1941, was slanted somewhat toward the instruction of women interested in the care of their own families. In the present edition the book is intended frankly for the instruction of students who are preparing for careers of practical nursing and women who are already engaged in such nursing in hospitals and the homes of others. (In the United States of America practical nurses and professional nurses are distinguished by different educational preparation and duties, those of the practical nurse being much simpler.) Basic knowledge and techniques, nurse-patient, patient-family and group relationships are discussed in simple, practical style. Aids to comprehension and use of the textual material include numerous tables of specific directions, clear explanatory diagrams, chapter summaries, and a glossary of simple definitions.

EMERSON, CHARLES PHILLIPS JR., AND JANE ELIZABETH TAYLOR

Essentials of medicine the basis of nursing care. Sixteenth edition, revised and reset. 190 illustrations including 4 subjects in full color Philadelphia J B Lippincott Company 1950 815 p. illus. (part col d) 21 cm. $4.50. 1507

Contents (abridged) Unit one, Introduction to nursing care: Observation of the patient. Treatment of the patient. Unit two, The respiratory system. Unit three, The circulatory system: The cardiovascular and lymphatic systems and peripheral vascular disease. Heart disease. Unit four, The digestive system. The gastro-intestinal tract and its disorders. The pancreas and its diseases. Unit five, The renal system. Unit six, The integumentary system. Unit seven, allergic conditions. Unit eight, The endocrine glands and metabolism. Unit nine, The nervous system. Unit ten, The musculoskeletal system. Unit eleven, The reproductive system. Unit twelve, The communicable diseases: Infection and immunity. Bacterial infections. Virus infections. Rickettsial infections. Spirochetal and protozoan infections. Parasitic infestations. Index.

Note: A very successful text, the first edition of which was published in 1908. It provides an introductory but fairly inclusive survey of the diseases and disorders that come within the scope of internal medicine and their nursing care. The purpose is to provide the nurse with the background and specific knowledge that will enable her to render sympathetic and effective nursing care. The fifteenth edition was published in 1946. In preparing this edition the authors wrote four new chapters on therapeutic techniques in which the present-day nurse usually participates directly. In addition, revisions were made in other chapters.

FADDIS MARGENE O., AND JOSEPH M HAYMAN, JR.

Care of the medical patient a textbook for nurses. New York McGraw-Hill Book Company Inc., 1952 654 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) $4.50. 1508

Contents (abridged) Part one, Introduction: What is disease? What are the qualifications for good medical nursing? The importance of understanding the patient. The examination of the patient. Part two, The patient's needs are the nurse's problem: The nature and importance of special needs. The patient with severe, acute illness. The patient with long term illness. The aging patient. The patient with disturbances of consciousness and of muscle movements. Part three, Special treatments and diagnostic procedures: The administration of oxygen. The aspiration of fluids from body cavities. Part four Nursing patients with particular diseases. Visual aids. Index.

Note. Primarily a textbook for use in schools of nursing, this book is of value also as a reference book to nurses in practice. The main theme is that of viewing the patient as a person and providing for his needs as an individual. General techniques and general applications are covered in the first 150 pages. Most of the remainder of the book is devoted to descriptions of specific diseases and to their particular nursing care. Diseases are considered under such headings as "Cardiovascular diseases," "Diseases of the respiratory system," "Diseases of the urinary tract" and "Infectious diseases." Most of the chapters conclude with a short "Suggestions for study" and with a selected bibliography. The first-named author is Professor of Medical Nursing in the School of Nursing of Western Reserve University and the second-named author is Professor of Medicine in the School of Medicine of the same university.

FINER, HERMAN

Administration and the nursing services. New York The Macmillan Company 1952 333 p. illus. 22 cm. $4 00 1509

Contents (abridged) Part one, The nursing service's need for administrative skill. *Part two, Compulsions to awareness of administrative skill.* The scarcity of personnel. Loss of personnel in nursing service. Diverse departmental skills and nursing service. Multiplicity of skills within the nursing service itself. Nonmeasurability of quality of nursing care. Regional responsibilities and size of nursing unit. Part three, The content of administration. The scope and principles of administration. Planning, organization, and budget. Personnel. Part four. Spark of education for nurses. The place of administration in the nursing service curriculum. The spirit in which to teach administration to nurses. Summary research needs, and study advice. Appendices. Index.

Note. This book is based largely on the findings of a research project for which funds were furnished by the W. K. Kellogg Foundation. The research project had as its purpose the study of such questions as "What is the science of administration needed in the conduct of nursing service? If so needed, how seriously is it needed? Third, what inferences are to be drawn for the curriculums of schools of nursing and for the spread of knowledge of administration among nurses already on the job at various levels in nursing service departments?" In the course of exploring these questions, the research project and the author studied various aspects of the nursing profession and nursing service, some of which are indicated by the chapter titles listed above. The book is of primary interest to directors of nursing schools and of nursing services in hospitals. It is also of interest to those who are concerned with the social aspects of nursing.

HULL, EDGAR AND CECILIA M. PERRODIN

Medical nursing. Fourth edition. With 172 illustrations 12 in color Philadelphia F A Davis Company 1950 826 p illus. (part col d) 22 cm. $4.50 1510

Contents (abridged) Unit I, Basic principles: Causes and classifications of disease. The manifestations of disease—the nature of symptoms and signs. The prevention of disease. General principles involved in the nursing care of the medical patient. Unit II, The respiratory system. Diseases of the upper respiratory tract. Diseases of the lungs. The nursing care of respiratory diseases. Unit III, The cardiovascular system. Diseases of the heart. The nursing care of heart disease. Diseases of the arteries. Abnormalities of the blood pressure. The nursing care of vascular diseases. Unit IV, The blood and blood-forming organs: Diseases of the blood. Unit V, The digestive system. Diseases of the digestive system. The nursing care of digestive diseases. Unit VI, Urinary system. Diseases of the kidneys and urinary tract. The nursing care of urinary diseases. Unit VII, Diseases of the locomotor and cutaneous systems. Nursing care in diseases of the locomotor system. The nursing care of skin disorders. Unit VIII, Ductless glands and metabolism: Diseases of metabolism. The nursing care of endocrine and metabolic diseases. Unit IX, The nervous system. Diseases of the brain. Emotional disorders. Nursing care in neurologic disorders and emotional disturbances. Unit X, Nutrition. The nursing care of deficiency diseases. Unit XI, Allergy, physical agents, chemical agents. The nursing care of diseases due to allergy. The nursing care of diseases due to chemical agents. Unit XII, Infectious diseases: Bacterial diseases. Protozoal diseases. Virus and rickettsial diseases. The nursing care of the specific infectious diseases. Index.

Note. (1193) An introductory textbook for use in schools of nursing. It covers from the viewpoint of nursing the various classes of internal diseases and outlines their nursing care. The text is adequately supplemented with illustrations and literature references. The fourth edition represents an extensive revision and some increase in the length of the book. As might be expected, most of the added material deals with developments in therapy but a considerable number of changes have been made in the discussions of diagnosis, disease prevention, etc.

JENSEN, DEBORAH MACLURG

History and trends of professional nursing. Second edition. St. Louis The C. V Mosby Company 1950. 365 p illus. 22 cm. $3 75 1511

Contents (abridged) Part I, Backgrounds for the development of professional nursing: Unit I, *Pre-Florence Nightingale nursing as background for the development of professional nursing.* Unit II, The medical background—the evolution of modern medicine. Unit III, The physical background—the evolution of the modern hospital. Unit IV, Social and economic backgrounds for the development of professional nursing. Part II, *Florence Nightingale:* Unit V, *Florence Nightingale—her life and influence in nursing.* Part III, The development of professional nursing in the United States: Unit VI, Early American nursing (until about 1900). Unit VII, Expansion of professional nursing. Unit VIII, American nursing between the two World Wars. Unit IX, American nursing during World War II. Unit X, Postwar development and trends. Unit XI, Professional nursing in United States dependencies. Part IV, The development of professional nursing in other countries and international relationships: Unit XII, British nursing since *Florence Nightingale.* Unit XIII, Canadian nursing. Unit XIV, Nursing in the British colonies and dominions. Unit XV, The development of professional nursing in European countries. Unit XVI, The development of professional nursing in Central and South American countries. Unit XVII, The development of professional nursing in *Asiatic* countries. Unit XVIII, International relations in nursing. Unit XIX, Conclusion. Index.

Note. (1201) A standard textbook for student nurses. Although it includes biographical sketches of the persons who have made major contributions to the art of nursing, the development of nursing is pictured as an integral part of development of social structure. Many developments are necessarily only summarized, but good bibliographical lists are included for those students who wish to pursue a topic further. This second edition is some 50 pages longer than the first. Material has been added particularly in the chapters on the status of nursing in countries other than the United *States of America.*

MCCLAIN, MARY ESTHER

Scientific principles in nursing. Illustrated. St. Louis The C. V Mosby Company 1950. 410 p illus. 22 cm. $3 00 1512

Contents: Unit I, Orientation to hospital nursing: The meaning of nursing. Personal health. Public health. The hospital. A safe and comfortable environment for the patient. Unit II, The patient in the hospital. Admission. Observation. Comfort. Dismissal. The care of the dying and the dead. Unit III, The patient's needs: Bathing. Care of the skin. Care of nails, hair, and mouth. Food and its service. Elimination and treatments of the bladder. Elimination and treatments of the large intestine. Unit IV, Making the diagnosis. Temperature. Pulse and blood pressure. Respiration and treatments of the respiratory tract. Diagnostic tests. Unit V, Therapeutic measures: Applications of heat and cold. Treatment of the vaginal canal. Treatments of the eye. Treatments of the ear. Nose and throat treatments. Treatments of the stomach. Oral medication. Needle injections. Treatments of the stomach. Oral medication. Needle injections. Care of wounds and bandaging. Isolation. Planning nursing care. References. Index.

Note. An introductory textbook for students of nursing in which the author has stressed the dependency of nursing upon scientific principles. The main part of each chapter is titled "Scientific principles" and is subdivided under the following headings: Anatomy and physiology, Microbiology, Chemistry, Pharmacology, Physics, Psychology and Sociology. The descriptions of standard nursing procedures are concise and clearly stated. The author is an instructor on the staff of the Providence Hospital School of Nursing in Detroit.

PETRY, LUCILE, editor

The encyclopedia of nursing. Prepared under the editorial supervision of Lucile Petry Philadelphia W B Saunders Company 1952 1011 p. 21 cm. $4 75 1513

Note. A reference work which is arranged in alphabetical order. The majority of terms are followed by concise essays of one or more paragraphs in which the terms are not only defined but additional information of interest to nursing students and graduate nurses is given. The matter under some main terms—for instance, hospitals, physics—runs to several pages. Terms from medicine, physiology, physics

chemistry and the social sciences are included—the criterion for inclusion having been pertinence to nursing. Also included are short biographical sketches of persons who have contributed to the advance of medicine and nursing. There are no illustrations.

WORKS ON SPECIAL TOPICS

ANTHONY, CATHERINE PARKER

Textbook of anatomy and physiology Third edition. With 208 illustrations including 16 color plates. St. Louis The C. V Mosby Company 1950 614 p illus. (part col d) 22 cm. $4.25 1514

Contents (abridged) Unit I, The body as an integrated whole. Unit II, The erect and moving body: The skeletal system. The muscular system. Unit III, Integration and control of the body Unit IV Maintaining the metabolism of the body: The circulatory system. The respiratory system. The digestive system. The urinary system. Unit v Reproduction of the human being. Unit VI, Glandular control of body functioning. Index.

Note: An introductory text for students of nursing. By the use of tables, outline summaries, and a high number of illustrations the author has succeeded in presenting more information than the number of pages would indicate. However fundamental information rather than verbose details is emphasized. The preceding edition was published in 1944. In this edition there is more emphasis on physiology However, material has been added on anatomy also.

BIDDLE, HARRY CLARENCE

Chemistry for nurses, a combined text and laboratory manual, including essential principles from inorganic, organic, and biochemistry Fourth edition. Consultant, Vaughn W Floutz. With 212 illustrations. Philadelphia F A. Davis Company 1951 351 p. illus. 22 cm. $4.00 1515

Contents (abridged) Part I, Inorganic chemistry: Structure and behavior of atoms. Oxygen—the breath of life. Water. Solutions—liquids of everyday use. Ionization—facts explaining chemical and electrochemical reactions in solution. Salts—compounds having no common ion. Metals and nonmetals—base-forming and acid-forming elements Part II, Organic chemistry: Compounds that make life possible. Important classes of organic compounds—substitution products of hydrocarbons. Carbohydrates—aldehyde or ketone derivatives of complex alcohols. Fats—our most important body storage foods. Proteins—tissue builders. Digestion—chemical change in alimentary canal. Part III, Appendix: Vitamins and milk. Blood and urine. Foods. Part IV *Glossary* Part v *Laboratory experiments. Index.*

Note: A long established introductory text. Although it includes material from various branches of chemistry and also a considerable range of reference data, it is not one of those texts which overwhelms the student with detail. The matter included has been carefully selected from the standpoint of its usefulness to nurses. Comprehension is facilitated by chapter outlines, summaries, "self-testing questions, etc.

COOPER, LENNA FRANCES AND OTHERS

Nutrition in health and disease. By Lenna F Cooper Edith M. Barber and Helen S Mitchell. Associate author Henderika J Rynbergen. Eleventh edition revised and reset. 133 illustrations, including 4 plates in color Philadelphia J B Lippincott Company 1950. 744 p. illus. (part col d) 21 cm. $4 00 1516

Contents (abridged) Part I, Principles of nutrition: Nutrition and optimum health Carbohydrates. Fat and related substances. Proteins. Energy metabolism Digestion, absorption and cell metabolism. Recommended dietary allowances *Nutrition during pregnancy* and lactation Nutrition during infancy Nutrition for adults, young and old. Part II, Diet in disease Overweight and underweight. Fevers and infections Deficiency diseases. Diabetes mellitus. Gastric disorders. Peptic ulcer Diseases of the liver and the biliary tract. Allergy—skin diseases. Cardiovascular diseases. Diseases of the urinary tract. Diseases of the musculoskeletal and the nervous systems. Preoperative and postoperative diets. Food requirements in diseases of infancy and childhood. Reference books and scientific journals. Glossary Index.

Note: (1521) A long established textbook and reference manual. It is addressed primarily to student nurses. However it is so comprehensive and so explicit that it is useful also as a reference book in physicians' offices, the offices of child care agencies, etc. The tenth edition was published in 1947 Parts of this edition were revised to make them conform to the 1949 revision of the National Research Council's *Recommended dietary allowances* and other parts to bring them in line with the American Dietetic Association's *A manual for teaching dietetics to student nurses*, 1949 Other chapters and parts have been revised where necessary to bring them abreast of newly developed knowledge of nutrition and diet therapy As in previous editions there are several reference features, including an extensive bibliography.

COURCHAINE, ARMAND JOSEPH

Chemistry visualized and applied. Edited by M. Cordelia Cowan. Drawings by Richard Albany New York G P Putnam s Sons, 1950 687 p. illus. 22 cm. $5.50. 1517

Contents (abridged) Part one, Fundamentals and applications of inorganic chemistry: Chemistry and physics. Matter. Energy Nonmetals and metals. Oxides—compounds of oxygen. Solutions. Acids. Bases. Salts. Ionization and its applications. Part two, Fundamentals and applications of organic chemistry: Hydrocarbons. Alcohols and ethers. Aldehydes and ketones. Organic acids, salts, esters, and amines. Nitrogen derivatives—urea and uric acid. Alkaloids and chemotherapeutic drugs. Part three, Introduction to biological chemistry: Carbohydrates. Fats and related compounds. Amino acids and proteins. Sterols and vitamins. The chemistry of hormones. Enzymes. Digestion. Metabolism. The chemistry of blood and milk. Urine. Appendixes. Index.

Note: An inclusive survey designed primarily for student nurses but useful also to students in other fields where a knowledge of chemistry and biochemistry is important but is subordinate to other sciences. The essentials of not only general chemistry but also of biochemistry are covered descriptively Comprehension on the part of the reader is facilitated by the liberal use of structural diagrams, graphic illustrations, and references to applications of the chemical knowledge in the understanding of life processes. The author is a member of the faculty of Hahnemann Medical College and Hahnemann Hospital School of Nursing, Philadelphia.

CULBERTSON JAMES T AND M CORDELIA COWAN

Living agents of disease. New York G. P Putnam's Sons 1952 624 p. illus. 22 cm. $5.50. 1518

Contents (abridged) Unit one, Introduction: Ways by which organisms produce disease. Social significance of living agents of disease. Unit two, The nature of living agents of disease: Bacteria. Spirochetes. Yeasts and molds. Rickettsiae and allied organisms. Viruses. Protozoa. Arthropods. Organizations participating in the study of organisms. Unit three, Methods in the study of living agents of disease: The laboratory Disinfection and sterilization. The study of bacteria. The study of spirochetes and yeasts and molds. The study of rickettsiae and viruses. The study of protozoa, helminths, and arthropods. Collection of specimens and use of experimental animals. Unit four The human body in relation to other organisms: Natural bacterial flora of the body. Infections of the human body Resistance to organisms and factors which determine infectivity of organisms. Response of the body to antigens of other human beings. Unit five, The control and eradication of living agents of disease: Prevention of spread of disease. Increment of resistance of potential hosts. Organizations for the control and eradication of infectious disease. Some of the laws concerned with or relating to infectious diseases. Unit six, Bacterial organisms and the diseases they cause. Unit seven, Other organisms and the diseases they cause: Pathogenic spirochetes and spirochetal infections. Pathogenic yeasts and molds and mycotic infections. Pathogenic rickettsiae and allied organisms and their infections. Pathogenic viruses and viral infections. Parasitic protozoa and protozoal infections. Parasitic helminths and helminthiases. Primary arthropodal pathogens and arthropodal disease conditions. Man's potential ability for survival. Index.

Note: An introductory treatment that gives a broad view of the role of microorganisms and some larger organisms in disease. The book is organized so that it may be used as a text in nursing schools

and other educational institutions. Some information is included on diagnosis and treatment of specific diseases caused by living organisms, but the book is not intended as clinical manual.

FRANCIS CARL C., AND G CLINTON KNOWLTON

Textbook of anatomy and physiology Second edition. With 365 text illustrations and 31 color plates St. Louis The C V Mosby Company 1950 624 p illus. (part col d) 22 cm. $5.00 1519

Contents (abridged) Unit I, The body body tissues, environment. Unit II, Posture and movement. Unit III, Integrative mechanisms. Unit IV Maintenance of the body tissues. Unit Reproduction. Glossary Index.

Note. A standard text for use in nursing schools. Anatomy and physiology are correlated rather than presented as separate subjects. The illustrations are of high quality The first edition was published in 1943 The original book was extensively rearranged and revised for this edition.

FRANCIS CHARLOTTE A., AND EDNA C MORSE

Fundamentals of chemistry and applications chosen from inorganic, organic, and biochemistry with applications in physiology microbiology nutrition, and everyday concerns. Third edition. New York The Macmillan Company 1951 545 p. illus. 22 cm. $4.50. 1520

Contents (abridged) Substances and how they are recognized mixtures. Physical and chemical change. Oxygen the element. Catalytic agents. Chemical changes may involve energy transformations. Introduction to bases, acids, and salts. Valence. A study of water. Solutions. Colloidal solutions. Emulsions. Ions and ionization. Oxidation reduction. An introduction to organic chemistry Proteins. Chemistry of digestion. Function and fate of glucose, fats, and proteins in the body Important physiological functionings of electrolytes. Index.

Note. An introductory text for students of nursing, home economics, and other fields where some knowledge of basic chemistry is essential because of its application to life processes. The treatment is simple and largely descriptive. However more ground is covered than in some introductory texts for students of nursing. The second edition was published in 1943 Extensive and important revisions are apparent in this edition.

GOOSTRAY STELLA, AND J RAE SCHWENCK

A textbook of chemistry Sixth edition. New York The Macmillan Company 1950 401 p. illus. 22 cm. $3 75 1521

Contents Introduction A chemist looks at nursing. We live in changing world. Our complex world is made of simple things. Chemical shorthand and weight relationships. From chemical activity to nuclear research. Types of chemical changes and their control. How the states of matter are explained. Oxygen. Redox. The most important compound to life Behavior of substances in water. The chemical opposites and their reaction products. Electrically charged particles in solution Two typical families of elements. The most versatile element. The field of organic chemistry Simple derivatives of the hydrocarbons. Cyclic organic compounds. The chemical nature and functions of food. Chemical changes within the body Chemicals that control body processes. The chemistry of the blood. Bibliography Appendix. Index.

Note (2837) A long-established textbook used in schools of nursing. It contains selection of basic information from general chemistry inorganic chemistry and biochemistry of interest in nursing. Topics such as water solutions, the chemistry of food, and the chemistry of the blood are discussed more fully than topics less directly related to nursing. Each chapter is prefaced by an outline and concludes with summary both being devices to facilitate comprehension on the part of the reader. The fifth edition was published in 1940. The chapter outlines are new feature in the present edition, and there are numerous other changes.

GREISHEIMER, ESTHER MAUD

Physiology and anatomy 478 illustrations, including 52 in color Sixth edition. Philadelphia J B Lippincott Company 1950 841 p. 21 cm. $5 00 1522

Contents (abridged) Unit one, The body as an integrated whole: Introduction to anatomy Introduction to physiology Unit two, The erect and moving body: The skeletal system. The muscular system. Anatomy of the muscular system. Unit three, Integration and control of the body by the nervous system. Unit four Maintaining the metabolism of the body: Blood, tissue fluid and lymph. Anatomy of the circulatory system. Physiology of the circulatory system. Anatomy of the respiratory system. Physiology of the respiratory system. Anatomy of the digestive system. Physiology of the digestive system. Anatomy of the excretory system. Physiology of the excretory system and water balance. The regulation of the body temperature. Anatomy and physiology of the glands of internal secretion. Unit five, The reproductive system. Unit six, Aviation: Physiology of aviation. Reference books and articles. Glossary Index.

Note. (2838) A standard introductory textbook for use in nursing schools. For work of this level it contains large amount of material but is well organized and adequately equipped with summaries and illustrations to facilitate study No major changes have been made in this edition as compared to the fifth edition published in 1945, but several chapters have been rewritten and extensively revised, and significant material has been added to other chapters. The author is Professor of Physiology in the School of Medicine of Temple University

JOHNSON, DORIS

Modern dietetics. Edited by Hazel E. Munsell. New York G P Putnam s Sons, 1951. 529 p. illus. (part col d) 21 cm. $4 95 1523

Contents (abridged): Part I: Nutrition and health. Proteins. Carbohydrates. Energy metabolism. Vitamins. Water and cellulose. Planning the adequate diet. Food habits and customs of various nationality groups. Pregnancy and lactation. Infant feeding. Feeding of children. Nutrition for the aged. Part II: Diet therapy Modifications of the normal diet—in selection of food—in consistency—in energy value—in protein content—in fat content—in carbohydrate—in mineral content. Part III: Introduction to the study of cookery Food hygiene. Beverages. Eggs. Cereals. Soups. Vegetables. Fruits. Salads and salad dressings. Desserts. Cheese. Meat, fish and poultry Part IV Appendix: Calculation of food values. General references. Index.

Note. An inclusive, introductory text in which the fundamentals of nutrition, normal and special dietary requirements, the principal foods, and diet-planning are all discussed. There is somewhat more emphasis on general aspects of dietetics even though the book was planned primarily for student nurses. There are 45 tables of reference data and many typical menus.

MILLARD NELLIE D., AND BARRY G KING

Human anatomy and physiology Third edition. 309 illustrations with 55 in color 215 by Lucille Cassell Innes. Philadelphia W B. Saunders Company 1951 596 p. illus. (part col d) 21 cm. $5 00 1524

Contents (abridged) Unit one, The body as an integrated whole. Unit two, The erect and moving body: The skeletal system. Articulations. The physiology of muscle. Unit three, Maintaining the metabolism of the body: Blood, lymph and tissue fluids. The circulatory system The lymphatic system. The respiratory system. The digestive system. Absorption and metabolism. Structure and function of the urinary system. Regulation of body temperature. The endocrine system. Unit four, Reproduction of the human being. Unit five, Integration and control of the body by the nervous system: Nervous tissue. Initiation and propagation of the nerve impulse. The spinal cord. The brain and cranial nerves. The autonomic nervous system. The special senses. References. Index.

Note. (1521*) An established introductory textbook designed primarily for use in schools of nursing, but used also in courses in liberal arts colleges and other courses where an abbreviated treatment is desired. 15 new illustrations have been added in this edition and there has been some revision of the text.

NETER ERWIN

Medical microbiology for nurses. Second edition. With 130 illustrations 9 in color

Philadelphia F A. Davis Company 1951. 470 p. illus. 23 cm. $4 00 1525

Contents (abridged) Introduction—the scope of medical microbiology Section I, General bacteriology: Morphology physiology, ecology and classification of bacteria. Destruction of bacteria and other micro-organisms. Section II, Immunology: Antigens and antibodies. Immunity, immunization and serum therapy Anaphylaxis and allergic diseases. Blood groups, blood transfusion reactions and hemolytic disease of the newly-born. Section IV Special bacteriology: Staphylococci and staphylococcal infections. Streptococci and streptococcal infections. Pneumococcus and pneumococcal infections. The gram-negative cocci (Neisseriae) and allied infections. The aerobic, gram negative, enteric bacilli and allied infections The proteus, alcaligenes and pseudomonas groups and allied infections. Vibrio comma and Asiatic cholera. The genus Brucella and brucellosis. Bacterium tularense and tularemia. The genera Hemophilus and Moraxella and allied infections. Pasteurella pestis and plague. Donovania and granuloma inguinale. The genus Corynebacterium and diphtheria. The genus Mycobacterium and allied infections. The genus Bacillus and anthrax The genus Clostridium and allied diseases. The spirochetes and allied infections. The normal bacterial flora of the human body General bibliography Glossary Index.

Note An introductory textbook that provides concise survey of those aspects of microbiology that are of particular interest in nursing. The role of microorganisms in disease, their control by disinfection and sterilization, and their identification are the aspects that are emphasized. Most of the chapters are short; for example, the one on rickettsiae and rickettsial diseases runs to only seven pages; but in it this class of organism is identified, the diseases due to it are briefly described, the vectors are named, the diagnostic tests are described, and control methods are outlined. In addition, there are twelve references to the literature. The first edition appeared in 1948. In the second edition short accounts of antibiotics, such as aureomycin, and of other new developments have been added.

Peplau Hildegard E.

Interpersonal relations in nursing a conceptual frame of reference for psychodynamic nursing. Foreword by R. Louise McManus. New York G P Putnam s Sons 1952 330 p. illus. 21 cm. $5.00 1526

Contents: Part I, Phases and roles in nursing situations. A definition of nursing. Phases of nurse-patient relationships. Roles in nursing. Part II, Influences in nursing situations: Human needs. Interferences to achievement of goals. Opposing goals. Unexplained discomfort. Part III, Psychological tasks Learning to count on others Learning to delay satisfaction. Identifying oneself. Developing skills in participation. Part IV Methods for studying nursing as an interpersonal process: Observation, communication, and recording. Selected bibliography (by topics) Index.

Note: A well written book on applied psychology in nursing. It is written throughout in the terms of nurse-patient relationships. As background to the discussion of these, the author delineates the principles of behavior in terms that will enable the student nurse to relate them to her work. The author is Instructor in Nursing Education at Teacher's College, Columbia University

Proudfit Fairfax Throckmorton and Corinne Hogden Robinson

Nutrition & diet therapy Tenth edition. New York The Macmillan Company 1950 950 p. illus. (part col d) 22 cm. $4 50. 1527

Contents (abridged) Section I, Normal nutrition: Food and its relation to health Proteins. Carbohydrates. Fats Mineral elements. The fat-soluble vitamins. Water-soluble vitamins. Planning diets for adequacy and economy Feeding the foreign born. Section II, Normal nutrition in special conditions: Diet during pregnancy and lactation. Feeding during infancy Feeding the aged. Section III, Diet therapy Deficiency diseases. Diet in obesity and underweight—fevers and infections—disturbances of the stomach and duodenum—diseases of the intestinal tract—diabetes mellitus—glandular disturbances—diseases of the kidney—anemias—gout and arthritis. Section IV Practical applications of nutrition—elementary cookery Section Recipes. Tables: Composition of foods. Fruits and vegetables classified as to carbohydrate content. Sodium and potassium content of foods. Acid-producing foods. Alkali producing foods. Cholesterol content of foods. Tables for height and weight. Correlation of lectures and laboratory work in nutrition and cookery courses. Bibliography Additional references. Recipe index Index.

Note: (1334) A long established (The first edition was published in 1918) textbook for use in schools of nursing and reference manual for graduate nurses. It is useful to public health workers and physicians also. In it are covered the basic knowledge of food and nutrition and also wide range of specific information on standard and special diets, cookery and recipes. The sixth edition was published in 1944. In the present edition many changes have been made in both the text and tabular matter. A number of chapters have been extensively rewritten and the book has been revised wherever necessary to align it with the American Dietetic Association's *Manual for teaching student nurses.*

Stern, Frances

Stern s applied dietetics the planning and teaching of normal and therapeutic diets. Revised by Helen Rosenthal, Pearl C. Baker and Wilma A. McVey Third edition. Baltimore The Williams & Wilkins Company 1949 293 p. illus. 26 cm. $5 00. 1528

Contents: Part I, The daily food requirements of the body The construction of the normal diet. The construction of the therapeutic diet. Environmental factors that influence the effectiveness of the diet. The education of the patient on the normal diet. The education of the patient on the therapeutic diet. Part II, Tables to simplify the computation of the diet. Part III, Dietary outlines. Part IV Typical diets and menus.

Note: (2345) A standard book for nursing students, graduate nurses, public health workers, and others with professional interests in dietetics. It is based on long career in dietetics in the department of the Boston Dispensary that was eventually named the Frances Stern Food Clinic in honor of the author. The present edition was prepared after the author's death by the present chief of the Frances Stern Food Clinic and two other of her former associates. In comparison to the preceding edition, Part is not significantly changed, but the tables, dietary outlines and diets in the subsequent parts have been revised to bring them in line with present knowledge of food composition, nutritive requirements, etc. Part II now contains 42 tables.

University of Kansas. School of Medicine

Therapeutic meal plans a new diet manual. Prepared by The Department of Dietetics and Nutrition, University of Kansas School of Medicine. Edited by Virginia Toews, Berdena Rosenow and Ruth Gordon. Lawrence University of Kansas Press 1952 111 p. 22 cm. $3.00 1529

Contents (abridged) Routine hospital meal plans. Liquid variations. Carbohydrate, protein, fat variations Salt variations. Mineral variations. Ash variations Fiber variations Mechanical and chemical variations. Miscellaneous. Calorie variations. Glucose-value variations. Pregnancy and lactation. Infant and child feeding Test diets. Additional tables. Index.

Note This manual is intended to provide the medical and nursing staffs of hospitals with examples of meals which can be readily adapted to meet specific requirements of patients. Each type of diet includes listing of necessary and additional foods, foods to omit, special rules, suggested menu, and the total vitamin and mineral content of each meal plan.

Witton Catherine Jones

Microbiology with applications to nursing. New York McGraw Hill Book Company Inc., 1950 692 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) $4 75 1530

Contents (abridged) Part one, The basic structure and activities of microorganisms: The morphology of bacteria. The physiology of bacteria. Techniques of microbiology Part two, The control of microorganisms Control of undesirable microorganisms by physical means. Chemical disinfectants and their use Control of organisms on and in the human body Part three, Sources and modes of infection. Part four, Infection and immunity Part five, Introduction to the study

of pathogens. Part six, The pathogenic bacteria: *Salmonella typhosa*. Other bacteria of enteric infections. The *Pseudobacteriaceae*. *Corynebacterium diphtheriae* and other nonsporing rods of medical importance. The Diplococci and Neisseriae. The Streptococci and the Micrococci. The pathogenic spore-forming bacilli. *Mycobacterium tuberculosis* and *Mycobacterium leprae*. The pathogenic spirochetes. Part seven, Pathogenic organisms other than bacteria. The Rickettsiae. The filtrable viruses. The pathogenic Actinomycetes and fungi. The pathogenic protozoa. The pathogenic worms. Appendixes. Laboratory methods. Literature and teaching aids. Classification of medically important Schizomycetes. Index.

Note. In this introductory book there is presented both general and specific information on bacteria and other microorganisms (together with few that are not microscopic) of pathogenic interest. The book is addressed particularly to nurses but the information presented is of background nature, that is to say no attempt is made to cover fully such matters as the specific techniques of nursing patients with communicable diseases. Most of the space is devoted to general control matters which are of interest in such fields as public health and to descriptions of specific organisms. The illustrations include many diagrams of lif cycles. The author is Associate Professor of Biology in Simmons College.

SPECIAL TYPES OF NURSING

ALEXANDER, EDYTHE LOUISE

Operating room technique. Second edition. With 668 illustrations. St. Louis The C. V Mosby Company 1949 765 p. illus. 26 cm. $10.00 1531

Contents: General arrangement of an operating room for general surgery Care and cleaning of the operating rooms. Nursing personnel of the operating room. History of asepsis. Sterilization. Wound healing, treatment, and preparation of operative areas. The care and sterilization of equipment. Suture materials. Anesthesia. Standardization of duties and procedures. Surgical positions. Draping of the operative field. Instruments, needles, and suture materials. Nose, mouth, throat, and neck operations. Chest operations. Abdominal incisions. Digestive system. Small intestine. Liver gall bladder bile duct, pancreas, and spleen. Large intestine. Lower sigmoid, rectum, and anal region. Genitourinary system. Operations upon the genitourinary system. Vaginal gynecologic operations. Abdominal gynecologic operations. Reconstructive surgery of bones, joints, and tendons Operations upon the spinal cord Vascular operations. Index.

Note. (2832) A nursing school textbook and reference manual in which detailed directions for all nursing procedures carried out in the operating pavilion of modern hospital are described in detail. In addition to the specific descriptions, background information is supplied in the first eight chapters and in sections of subsequent chapters. In discussing specific operations, there is usually brief note on the anatomy of the region and definition of the condition for which the operation is being performed. These are followed by concise instructions on necessary equipment, anesthesia, positioning of the patient, operative preparation, draping, etc. Another useful feature is the inclusion of illustrations of instruments. The first edition of the book was published in 1943. Although intended for the same audience as the first edition, the book has now been revised and much expanded. There are three times as many illustrations and substantially more text in the second edition than in the first.

CROSSEN ROBERT JAMES AND ANN JONES CAMPBELL

Gynecologic nursing. Fourth edition. With 167 illustrations, including two in color St. Louis The C. V Mosby Company 1951 256 p. illus. (part col d) 22 cm. $3 75 1532

Contents: Points in anatomy Points in physiology Gynecologic symptoms and their significance Gynecologic history and examination. Pelvic infections. Uterine displacements, injury to the pelvic floor fistulae. Extrauterine pregnancy Tumors of the uterus. Ovarian tumors. Malformations. Disturbances of function Gynecologic treatment methods. Nursing procedures. Public health aspects of gynecologic nursing. Glossary Index.

Note: (1111*) An introductory textbook for student nurses. Obstetric nursing is not covered. Instead, the book is limited to nursing techniques in relation to diseases of women. The third edition was published in 1946. This fourth edition is the result of considerable reorganization and revision. The most important change from the standpoint of users of the book is the placing of the material on nursing care of disease in the chapter where the disease is described. The first-named author is Assistant Professor of Clinical Gynecology and Obstetrics in Washington University School of Medicine and the second-named author is Instructor in Nursing in the School of Nursing of the same university

ELIASON, ELDRIDGE LYON AND OTHERS

Surgical nursing, by Eldridge L. Eliason, L. Kraeer Ferguson, and Lillian A. Sholtis. Ninth edition, revised and reset. 336 illustrations including 9 subjects in full color Philadelphia J B Lippincott Company 1950. 728 p. illus. 21 cm. $4 50 1533

Contents (abridged) Unit one, Introduction to surgical nursing: The surgical nurse and her patient. Inflammation—wound care. Antisepsis and asepsis. Preoperative nursing care. The patient in the operating room. Postoperative care. Tumors and malignancy Unit two, Nursing in conditions of the respiratory system. Surgery of nose, throat, lungs and pleura. Unit three, Nursing in conditions of the circulatory system, the blood and the blood-forming organs. Unit four, Nursing in conditions of the alimentary system: Surgery of lips, mouth, tongue and esophagus. Surgery of the abdomen. Unit five, Nursing in conditions of the urinary tract—male urinary Unit six, Nursing in conditions of the integumentary system (including subcutaneous and areolar tissue and the breasts) Unit seven, Nursing in conditions of the eye and the ear. Unit eight, Nursing in conditions of the endocrine glands. Unit nine, Nursing in conditions of the nervous system. Unit ten, Nursing in conditions of the musculoskeletal system. Unit eleven, Nursing in conditions of the reproductive system. Unit twelve, Nursing in surgical communicable diseases. Unit thirteen, Operative aseptic technic. Index.

Note (1847) A long established textbook used in courses offered to student nurses. Although still designed as an introduction to the techniques of surgical nursing, this edition represents an extensive rewriting with much new material added. The material presented is not limited to nursing techniques but includes enough of anatomy and physiology "to enable the nurse to grasp intelligently the principles and treatment of surgical diseases and to appreciate her responsibilities in the care of her patient. The techniques of postoperative care are well covered. Selected literature references are included in all of the sections. Two of the authors are associated with the University of Pennsylvania School of Medicine and one of them is member of the faculty of the Yale University School of Nursing.

ELMAN ROBERT

Surgical care a practical physiologic guide. New York Appleton-Century-Crofts, Inc., 1951 586 p illus. (part col d) 25 cm. $10.00 1534

Contents: Introduction. Systemic reaction to trauma. Psychogenic factors in surgery Nutrition in surgery Physical factors in surgery. Basic preoperative care. Anesthesia, by M. Sakiad. Inhalation therapy and resuscitation, by M. Sakiad. Routine postoperative care. Chemotherapy in surgery Postoperative pain Pulmonary complications. Thromboembolic disease. Postoperative renal dysfunction. Surgical shock. Wound complications. Abdominal complications. Postoperative fever. Thermal burns. Author index. Subject index.

Note: A textbook on convalescent care of surgical patients. It covers care both before and after operations; and there are also discussions of anesthesia and resuscitation which are, of course, related to the operation itself. All of the material is written from the standpoint of the basic physiological principles. Nevertheless, much of the exposition is specific and directly related to the daily work of house physicians and nurses. For example, formulas for the tube feeding of patients are included. The author is Professor of Clinical Surgery of the School of Medicine of Washington University

FADDIS MARGENE O , AND JOSEPH M. HAYMAN JR.

Care of the medical patient a textbook for nurses. New York McGraw Hill Book Company Inc. 1952 654 p. illus. 23 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) $4 50. 1535

Contents (abridged) Part one, Introduction What are the qualifications for good medical nursing? The importance of understanding the patient. The examination of the patient. Some important reactions to injury Part two, The patient's needs are the nurse's problems: The nature and importance of special needs. The patient with

nurse, acute illness. The patient with long-term illness. The aging patient. The patient with disturbances of consciousness and of muscle movements. Part three, Special treatments and diagnostic procedures: The administration of oxygen. The aspiration of fluids from body cavities. Part four: Nursing patients with particular diseases. Visual aids. Index.

Note: In writing this book the authors took into account (1) the increasing number of patients with chronic illnesses such as the aged, (2) the importance of psychological rapprochement between nurse and patient and (3) the nurse's part in the education of the patient and his family to care for himself and to live with his illness. An understanding of these new factors in successful nursing is stressed as an important adjunct to technical knowledge and skills. The greater part of the volume (473 pages) is devoted to discussions of particular diseases, written from the nurse's standpoint. This part has considerable reference value for graduate nurses. The authors are faculty members of the School of Nursing and the School of Medicine of Western Reserve University

FELTER, ROBERT KENNETH, AND OTHERS

Surgical nursing. By Robert K. Felter Frances West, and Lydia M. Zetzsche, and associates. Sixth edition. With 363 illustrations 7 in color Philadelphia F A. Davis Company 1952 768 p. illus. (part col'd) 23 cm. $4.50 1536

Contents (abridged) Unit I, Introductory and basal pathological states: Inflammation and infection. Unit II, Surgical skills and nursing: Preoperative nursing care. Anesthesia. General postoperative nursing care (during normal convalescence) Unit III, The respiratory system: Surgical treatment of pulmonary tuberculosis and nursing care. Unit IV Diseases of the cardiovascular and the lymphatic systems. Unit Diseases of the gastrointestinal system: Surgery of the stomach and duodenum and nursing care. Hernia and nursing care. Unit VI, Genitourinary surgery: Surgical procedures and postoperative nursing care. Unit VII, Surgery of the osseous and muscular systems: Diseases of the osseous system. Tuberculosis of the osseous system. Sprains, dislocations, and transportation of the injured. Fractures. Unit VIII, Endocrine diseases. Unit IX, Surgery of the nervous system. Unit X, Eye, ear nose, and throat. Unit XI, Integumentary system: Burns. Unit XII, The female reproductive system. Unit XIII, Plastic and reconstructive surgery Unit XIV The nurse in the operating room. Index.

Note: (2169) A textbook for use in schools of nursing. Classes of diseases and individual diseases which are treated by surgery are described from the nurse's viewpoint. In general for each disease there is an outline of the basic anatomy and physiology some discussion of pathology etiology and description of signs and symptoms However, the main emphasis is on pre- and post-operative care. The fifth edition was published in 1948. It was extensively revised for this edition Many changes were made in the text and more than 100 of the illustrations are new

FUNSTEN ROBERT VIVIAN AND CARMELITA CALDERWOOD

Orthopedic nursing. Second edition. With 208 text illustrations. St. Louis The C. V Mosby Company 1949 660 p. illus. 22 cm. $4.25 1537

Contents (abridged) Unit 1, Introduction for the teacher and the student: Orthopedic principles in general nursing. Unit 2, General features of orthopedic nursing: Nursing care of cast patients. Nursing care of the orthopedic surgical patient. Physical therapy Unit 3, Congenital and acquired deformities. Unit 4, Bone disorders in children. Unit 5, Acute and chronic inflammation of joints. Unit 6, Fractures, dislocations, sprains, and other joint injuries Nursing care of the fracture patient. Amputations. Nursing care following amputation. Nursing care of patients in traction. Unit 7 Static deformities and disabilities. Unit 8 Conditions resulting from injury or disease of the brain, spinal cord, and nerves Nursing care of patients with poliomyelitis Nursing care of patients with cerebral palsy Progressive muscular dystrophy Unit 9 Bone tumors. Unit 10, Conditions of the low back. Unit 11 Bone disorders in adolescent and adult life. Osteochondritis Bone diseases in adult life. Slipped femoral epiphysis. Glossary Index.

Note: An outstanding textbook on the nursing of orthopedic patients. It is used mainly as textbook in courses offered to nursing school students who are preparing for this specialty but it is useful also to graduate nurses working in other branches of nursing who are called upon to care for orthopedic cases. The specialized techniques of orthopedic nursing are covered in full detail and the necessary background of medical information on diseases that cause deformities is included also. The book is written in direct style that is easy to understand and is well illustrated. The first edition was published in 1943. The scope and content of this edition are essentially the same except for new material on such matters as the nursing care of paraplegic patients, early ambulation, and the use of hot, moist packs in the treatment of poliomyelitis. The number of pages has been increased by 58 and the number of illustrations by 27 A selection of recent literature has been added to the lists of references.

GILBERT, RUTH

The public health nurse and her patient. Cambridge Mass. Published for The Commonwealth Fund by Harvard University Press, 1951 348 p. 24 cm. $3 75 1538

Contents: Mental hygiene in public health nursing. Teaching health. Nurse and maternity patient. The child in his family Nursing the sick patient. Relationships with co-workers. Bibliography Index.

Note: (1973) An illuminating presentation of attitudes and relationships among patients and nurses engaged in public health nursing. The book is addressed to the public health nurse but it is devoted mainly to the patients. Family situations and typical problems of individual patients are both discussed thoroughly together with indications of the nurse's part in helping to solve them. The first edition appeared in 1940. This edition represents an extensive revision based on larger experience and upon the literature published since 1940.

HETHERINGTON HUBERT WILLOWS, AND FANNIE W ESHLEMAN

Nursing in prevention and control of tuberculosis. Revised third edition. Illustrated with photographs and charts. New York G P Putnam's Sons, 1950 361 p. illus. 21 cm. $4.50 1539

Contents. Pulmonary tuberculosis—history epidemiology etiology, pathology symptoms. The diagnosis of tuberculosis. Treatment of pulmonary tuberculosis. The management of pulmonary tuberculosis and its complications. Tuberculosis and pregnancy Collapse therapy in pulmonary tuberculosis. Tuberculosis in infants and children. Tuberculosis case-finding. Prevention of tuberculosis among nurses. Nursing in the treatment of tuberculosis. The prevention of tuberculosis. Tuberculosis dispensary or chest clinic. Family health service Family case studies. Rehabilitation. Appendix. Index.

Note: A nursing college textbook in which information on the special nursing techniques of tuberculosis nursing is combined with general and public health on this disease. There is long chapter on the prevention of tuberculosis and related information in other chapters. The book thus has potential value for social case workers and other persons outside the nursing profession who have professional interest in the tuberculosis problem. However, its main purpose is the information and instruction of student and graduate nurses. Selected literature references are included. The first named author is Chief of Clinic of the Henry Phipps Institute of the University of Pennsylvania and the second author is Supervisor of Public Health Nursing in the same Institute.

KALKMAN MARION E

Introduction to psychiatric nursing New York McGraw Hill Book Company Inc., 1950 336 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) $4.50 1540

Contents (abridged) Part one, Preliminary considerations: Learning to observe the psychiatric patient. Part two, Understanding the patient. Part three, What can be done for the patient: Patient's history Physical methods of treatment. Psychological and social methods of treatment. Teamwork in psychiatric treatment. Part four, How the psychiatric nurse works: Discussion of some general concepts of psychiatric nursing The problem of restraint. The problem of suicide. Psychiatric nursing orders and attitudes. The nurse's first experiences on psychiatric service. Talking to psychiatric patients. Part five, Suggestions for the nursing care of various types of psychiatric patients: The nurse and psychiatric reaction patterns—hyperactive and hypoactive states. Anxiety, acute, and chronic

organic reactions. Paranoid, panic, and anxiety states. Hysterical and neurasthenic reactions and personality disorders. The psychiatric nursing care of the individual patient. Index.

Note: A clearly written book addressed to student nurses and graduate nurses who are acquainted with basic nursing techniques. Practically all of the space is devoted to psychological and psychiatric topics which are directly important in psychiatric nursing or are useful as background. Little is included on general nursing procedures. Extensive lists of the related literature are included. The book is based on the author's extensive experience in psychiatric nursing and in the teaching of psychiatric nursing to others.

KNOCKE FREDERICK JOHN, AND LAZELLE S KNOCKE

Orthopaedic nursing. 312 illustrations. Philadelphia F A. Davis Company 1951 682 p. illus 23 cm. $5.50 1541

Contents (abridged) Unit II, Psychology: Psychology of orthopaedically handicapped, by H. B. Holodnak. Unit III, Rehabilitation: Rehabilitation—a composite science, by Col. J. N Smith, Jr. Role of nurse in rehabilitation. Unit Bed patients. Care of bedfast orthopaedic patient. Orthopaedic surgical patient. Care of cast patient. Care of traction patient. Patient on frame. Unit VI, Up patients. Care of semiambulatory and ambulatory patients. Unit VII, Home care Orthopaedic implications in community nursing, by M. Kerr. Unit VIII, Special therapies: Physical therapy by E. C. Addams. Occupational therapy by E. H. Bruker Daily-activity teaching, by M. E. Brown. Unit IX, Applying fundamentals of orthopaedic nursing. The poliomyelitis patient. Appendix. Index.

Note A textbook that is introductory to this specialized field of nursing but which nevertheless provides full and explicit discussions of present-day techniques including the psychological and occupational therapy aspects. Selected bibliographies and lists of visual aids accompany the chapters. The first-named author is an orthopedic surgeon on the faculty of the College of Physicians and Surgeons of Columbia University and the second author, his wife, is a nurse who has specialized in orthopedic nursing.

LYNCH THERESA INES

Communicable disease nursing. Second edition. With 131 text illustrations and 4 color plates. St. Louis The C. V Mosby Company 1949 776 p. illus. (part col d) 22 cm. $4 75 1542

Contents (abridged) Part I, Orientation to communicable disease nursing Preparation for communicable disease nursing. Prevention and control of communicable diseases. Vaccines, immune sera, and serum reactions. Sulfonamides and antibiotics. Medical asepsis. Part II, Medical aspects and nursing care of communicable diseases: A, Diseases spread mainly by discharges from the nose and mouth. B, Diseases spread mainly through discharges from the skin and mucous membranes. C, Diseases spread mainly through discharges from the gastrointestinal tract. D Diseases transmitted mainly by infected animals. E, Diseases transmitted mainly by infected insects. Part III, Tuberculosis. Part IV The venereal diseases. Part Communicable diseases and the community Appendices Morbidity reporting requirements. Precaution technics suggested for general hospitals. Nursing procedures Glossary Index.

Note. (1533) A textbook for use in nursing schools. In it the special techniques of communicable disease nursing are described fully and, in addition, enough information is included on medical aspects such as etiology sources of infection, course of the disease, complications and treatment to give the nurse an adequate background for informed and sympathetic nursing. There is a special chapter on home care which is of interest both to the public health nurse and to nurses practicing privately. The first edition was published in 1942. For this edition three chapters were added and numerous revisions were made in those carried over. Many of the changes were a reflection of the advances in the control of communicable diseases made during World War II.

MODELL WALTER

Handbook of cardiology for nurses the disease the patient, modern concepts of treatment. Foreword by Edna L. Fritz. New York Springer Publishing Company Inc. 1952 246 p. illus. 22 cm. $3.50 1543

Contents: Anatomy and physiology. Pathology and pathologic physiology The cardiac examination. Signs and symptoms of heart disease. X-rays, electrocardiography and other instrumental procedures. Laboratory tests. The course of heart disease. Heart attack. Heart failure. Disorders of cardiac rhythm. Etiology of heart disease. Congenital heart disease. Rheumatic heart disease. Luetic heart disease. Hypertensive heart disease. Arteriosclerotic heart disease. Bacterial endocarditis. Less common forms of heart disease. Functional heart disease. Complications of heart disease. Emergencies in heart disease. Treatment of heart disease General nursing care. Drugs. Surgery Climatotherapy Habits and hygiene. Psychotherapy The outlook for the cardiac patient. Appendix. Index.

Note: Not a textbook but a self-instruction manual and reference book. In it are presented the essentials of heart disease, nursing care in heart disease, drugs and other therapies, all from the standpoint of nurses who are concerned with cardiac patients. The appendix contains a typical low sodium diet and a tabulation of the amounts of sodium in a considerable range of common foods. The author is a member of the faculty of Cornell University Medical College.

MORRISSEY, ALICE B

Rehabilitation nursing. Foreword by Howard A. Rusk. New York G P Putnam's Sons, 1951 299 p. 21 cm. $5 00 1544

Contents: Part I, The meaning of rehabilitation. Historical survey of rehabilitation. Incidence of disability in the United States. Integration of personality in disability The nurse's role in rehabilitation. Part II, Nursing principles and procedures in rehabilitation: Fundamentals of nursing care in rehabilitation. Nursing measures to prevent physical deterioration. Procedures for bladder and bowel rehabilitation. Measures for the prevention and care of decubitus ulcers. Teaching the activities of daily living. Techniques of crutch walking. Care and use of mechanical leg braces. Wheel chairs. The nurse and speech rehabilitation, by Elmer E. Baker Jr. Part III, Nursing practice in rehabilitation: The care of the amputee. The care of the hemiplegic patient. The care of paraplegic and quadriplegic patients. Index.

Note. In this book current techniques in the rehabilitation of physically handicapped persons are presented for nurses. Most of the discussion pertains to the care and teaching of such patients. However this material is presented against the background of the modern viewpoint of full rehabilitation. Thus there is a long discussion of the psychological aspects. Lists of references accompany the chapters, and there are 14 figures. The author is Supervisor of Nursing Service, Department of Physical Medicine and Rehabilitation, Bellevue Hospital.

MULLER, THERESA GRACE

The nature and direction of psychiatric nursing the dynamics of human relationships in nursing Philadelphia J B Lippincott Company 1950 379 p. 21 cm. $5.00. 1545

Contents. Part one, Status of psychiatric nursing: Introduction. Mental illness. Mental institutions. Psychiatric nursing and general education. Psychiatry and medical education. Psychiatric social work and clinical psychology Therapeutic and preventive measures. Part two, Nature of psychiatric nursing: Role of the nurse in psychotherapy Psychodynamics of behavior deviations. Underactive behavior Overactive behavior Psychosomatic viewpoint. Community health aspects. Part three, Direction of psychiatric nursing: Personal qualifications. Inservice education. Psychiatric nursing in the basic curriculum. Psychiatric nursing in advanced professional curricula. Evaluation and research. Bibliography Index.

Note. Rather than a beginner's text, this work is a source book of information on the current status of psychiatric nursing in the United States of America, the special nature of psychiatric nursing as distinguished from other types of nursing, and on the teaching of psychiatric nursing. There is much in it of interest to persons who are responsible for curricula in nursing schools. Also, there is much for the graduate nurse who is considering entering the field of psychiatric nursing or who is generally interested in the social contribution of nursing. Lengthy bibliographies are included in each chapter The author is Associate Professor of Nursing in the Psychiatric Department of Boston University School of Nursing.

NEWTON, KATHLEEN

Geriatric nursing. St. Louis, Mo. The C. V Mosby Company 1950 420 p. illus. 22 cm. $4 75 1546

Contents. Unit I, General background: The aging and the aged. Basic sociopsychologic needs. Employment and economic security Housing in health and during illness. Unit II, Nonspecific

considerations: General hygiene. Nutrition. Unit III, Clinical nursing: Special treatments. Anesthesia and operative care. Nursing in diseases of the gastrointestinal tract. Nursing in cardiovascular renal disease. Nursing in diseases of the ear, nose, and throat. Nursing in diseases of the chest. Nursing in diabetes mellitus. Nursing in diseases of the skin. Nursing in diseases of the eye. Neurological nursing. Psychiatric nursing. Orthopedic nursing. Urologic nursing. Gynecologic nursing. Index.

Note: Both the general aspects and specific techniques associated with the nursing care of aged people are covered in this book. Much attention is given to the importance of viewing the patient as a person and extending sympathetic understanding to him. Diseases of the aged are described from the nurse's viewpoint. The book is designed for use as a text in nursing schools and also for self-instruction purposes. Literature references are included. The author is in charge of Graduate Nursing Education at Cornell University-New York Hospital School of Nursing.

PILLSBURY MARY ELIZABETH AND ELIZABETH JOHANNA SACHS

Nursing care of communicable diseases prophylactic technics for the prevention and the control of disease. Science adviser and editor Jean Broadhurst. Contributors, Jessie Wright and Jane Taylor Torrance. Seventh edition. 146 figures, 23 charts, 3 color plates. Philadelphia J B Lippincott Company 1952 843 p. illus. (part col d) 21 cm. $4 50. 1547

Contents (abridged) Part one, The scientific bases and technics for the control of communicable diseases. Part two, The nursing care of communicable diseases. Part three, Historical review of hospital and public health care of communicable diseases. Part four, Supplementary materials. Index.

Note: ([illegible]) A successful textbook for use in schools of nursing. It assumes on the part of the reader an acquaintance with the basic principles of nursing. In part one such topics as causal organisms, resistance to disease, prophylactic techniques are covered. In part two, the communicable diseases are considered individually and their nursing care is described in detail. The content of part three is obvious from its title. In part four reference data on disinfection procedures, dilutions of literature, cubic and metric tables, etc have been collected. The sixth edition was published in 1943. It was very extensively rewritten in preparing this edition. New chapters were added and new information was inserted in sections and paragraphs carried over. The number of pages was increased by more than 100. The general bibliography was revised so that it now includes chiefly recent books.

SELTZER ALBERT PINCUS

Diseases of the eye, ear nose and throat a textbook for nurses. With the technical assistance of Bernard C Gettes. New York McGraw Hill Book Company Inc., 1950 347 p. illus. 24 cm. $4 50 1548

Contents (abridged) Part one, General considerations. Part two, The eye. Part three, The nose. Part four, The mouth. Part five, The throat and the esophagus. Part six, The larynx and its disorders; the trachea. Part seven, The ear. Part eight, Special subjects. Visual aids. Index.

Note: An inclusive work which covers the basic anatomy, embryology and physiology insofar as these are of concern to nurses but is devoted chiefly to nursing techniques. Techniques are described explicitly. The author's style is lucid. There are short lists of literature references and 16 figures.

STEELE KATHARINE MCLEAN, AND MARGUERITE LUCY MANFREDA

Psychiatric nursing. Fourth edition. 91 illustrations. Philadelphia F A. Davis Company 1951 546 p. illus. 22 cm. 1549

Contents (abridged) Unit I, Historical background. Unit II, Introduction to psychiatric nursing. Orientation. Legal aspects of psychiatric nursing. Mental hygiene and prevention. Unit III, Studying the psychiatric patient: Case study. Staff conferences. Unit IV, Fundamental nursing care: Environmental management. Hygiene. Nutrition. Treatment of physical complaints. Night nursing. Unit V, Overactive, underactive, and convalescent patients. Unit VI, Practical procedures: Charting. Special procedures. Prevention and treatment of hazards. Unit VII, Specific mental disorders: Psychoses with mental deficiency. Psychopathic personality. Psychoneuroses. Organic psychoses. Paranoia and paranoid types. Schizophrenia (dementia praecox). Unit VIII, Therapeutic technics: Psychotherapy. Shock therapies. Educational therapy. Hydrotherapy. Psychosurgery. Unit IX, Psychiatric nursing outside the psychiatric hospital: Care of mental patient in the home. Application of psychiatric principles in the general hospital. Traveling with the mental patient. Psychiatric nursing in public-health work, by W W Warner. Glossary. Index.

Note: ([illegible]) A standard text for graduate and student nurses who are preparing for the specialty of psychiatric nursing. It is outstanding for its full descriptions of nursing procedures in the care of mentally disturbed patients. Therapeutic techniques such as hydrotherapy are described in detail from the nurse's viewpoint. The third edition was published in 19[illegible]. The fourth edition represents a major revision with a large number of new chapters and extensive revision in chapters that were carried over.

WEST JOHN PETTIT AND OTHERS

Nursing care of the surgical patient, by John Pettit West, Manelva Wylie Keller and Elizabeth Harmon. Fifth edition. Formerly *Textbook of surgical nursing* 4th ed., by MacFee and Keller New York The Macmillan Company 1951 500 p. illus. 22 cm. $4.00 1550

Contents: Unit I, Introduction to surgical nursing. Unit II, Fundamental considerations. Unit III, Nursing care. Index.

Note: ([illegible]) A standard textbook for use in schools of nursing. Concise information on diseases treated by surgery accompanies full descriptions of nursing techniques. The style is simple and direct. The section on the operating room which appears in earlier editions has been dropped. The book is consequently shorter. In the sections retained extensive revisions have been made. There are now 70 figures, good selected bibliographies, and a detailed index.

WOODWARD HENRY L. AND BERNICE GARDNER

Obstetric management and nursing With sections on Home deliveries, by William P Gillespie Diseases of the newborn, by Harold F Downing and The public health nurse in obstetrics by F Kirby Harder Fourth edition. 490 illustrations, 7 in color Philadelphia F A. Davis Company 1951 844 p. illus. (part col d) 23 cm. 1551

Contents (abridged) Unit I, The background of obstetric nursing. Unit II, Anatomy and physiology correlation. Unit III, Normal pregnancy and prenatal care: Symptoms, signs and diagnosis of pregnancy. Diet in pregnancy. Mental hygiene of the pregnant woman. Minor disorders of pregnancy. Examinations preliminary to labor. Unit IV, Normal labor and its management with nursing care: Physiology of normal labor. Management of normal labor. Care during normal puerperium. Care of the normal newborn infant. Case study of a normal obstetric patient. Unit V, Home delivery and public health obstetric nursing. Unit VI, Abnormalities of pregnancy and nursing care. Toxemias of pregnancy and nursing care. The hemorrhages of pregnancy and nursing care. Intercurrent conditions of pregnancy and nursing care. Unit VII, Abnormalities and complications of labor. Unit VIII, Obstetric injuries and operative obstetrics. Unit IX, Puerperal complications. Unit X, The abnormal infant and its care. Index.

Note: ([illegible]) One of the standard textbooks used in schools of nursing as an introduction to this nursing specialty. The range of information presented in the text proper is unusually inclusive. Furthermore, the text is supplemented by a high number of illustrations. The inclusion of a section on home delivery is also noteworthy. The third edition was published in 1945. The organization of the book and the main content were unchanged in preparing this edition. However numerous minor changes made necessary by such advances as the introduction of new antibiotic drugs have been made in various sections. More recent literature has been added to the selected bibliographies entitled "Continued study aids," which accompany many of the chapters.

ZABRISKIE, LOUISE, AND NICHOLSON J EASTMAN

Nurses handbook of obstetrics. 377 illustrations, including 8 color plates. Ninth edition completely revised. Philadelphia J B Lippincott Company, 1952 695 p. illus. (part col d) 21 cm. $4 75 1552

Contents (abridged) Unit one, Human reproduction: Aims of obstetric nursing. Anatomy as basis for obstetrics. Physiology in relation to obstetrics. Development and physiology of the fetus. Presentations and positions. Unit two, Nursing in pregnancy: Normal pregnancy Prenatal care. Complications of pregnancy The mental hygiene of pregnancy Preparations for labor and delivery Unit three, Nursing during labor and delivery Anesthesia and analgesia in labor. Conduct of normal labor. Operative obstetrics. Unit four, Nursing during the puerperium: Normal puerperium. Complications of the puerperium. Unit five, The neonatal period: The nursing care of the new baby Nursing care of the premature baby After-care of the baby Unit six, Additional maternity information: History of obstetrics. Teaching aids. Glossary. Index.

Note: (2904) A long-established textbook, outstanding for comprehensiveness, the clarity of the presentation, and the number and quality of the illustrations. Although intended primarily for use in organized classes it is useful also as reference book by specialized public health nurses, etc. The first-named author was formerly Night Supervisor in the Lying-In Hospital, New York. The second-named author is Professor of Obstetrics in the Johns Hopkins University The eighth edition was published in 1948. For this ninth edition the book was reorganized and the type reset. A new chapter has been added and many revisions have been made in other chapters. The revisions relate to such important topics as prenatal care, the rh factor new analgesics and anesthetics, care of premature babies, etc. Many illustrations have been added.

HOSPITALS

FAXON, NATHANIEL WALES editor

The hospital in contemporary life. Cambridge Harvard University Press, 1949 288 p. illus. 22 cm. $5.00. 1553

Contents: The development of the hospital, by E. D. Churchill. The relief of suffering, by H. K. Beecher. Human nature and the understanding of disease, by S. Cobb. The care of the patient, by L. S. McKittrick. The education of the doctor by O. Cope. How medicine grows and its relation to science, by E. M. Landis. Unsolved problems, by J C. Aub. The place of the hospital in the social order by N W Faxon. Index.

Note: The primary purpose of this book—composed of the revised texts of lectures originally delivered under the sponsorship of the Lowell Institute—is to promote on the part of the general public an informed and sympathetic understanding of the social importance of the hospital. However, only the author of the final lecture has addressed himself specifically to the hospital as social institution. Several other chapters are devoted to highlights in the history of medicine and of hospitals. The authors are members of the staff of the Massachusetts General Hospital and the faculty of the Harvard Medical School.

HAUN PAUL

Psychiatric sections in general hospitals an architectural record book. New York F W Dodge Corporation, 1950 80 p. illus. 26 cm. 1554

Contents (abridged) Introduction, by K. A. Menninger Psychiatric sections in general hospitals. Analysis of floor plans. The psychiatric floor incorporated in general hospital, by C. Butler and A. Erdman. Bibliography Index.

Note. This book is both plea for the inclusion of psychiatric sections in the planning of general community hospitals and discussion of the design of such section or floors. Included are critical discussions and ratings of eight floor plans of psychiatric units in general hospitals. The author is member of the faculty of Georgetown University Medical School.

McGIBONY JOHN R.

Principles of hospital administration. New York G P Putnam s Sons 1952 540 p. illus. 21 cm. $6.80. 1555

Contents (abridged) Section 1, Introduction. Section 2, Planning for services: Measuring the community Fund raising. Functional plans for hospital construction. Section 3, Planning for operation: Functional hospital organization. The governing board of the hospital. The medical staff. The administrator Section 4 Management services: Public relations. Legal responsibilities. Hospital personnel. The business office. Plant operations. Safety fire and disaster programs. Section 5, Clinical services: Medical services. Surgical services. Obstetrical services. Nursing services. Pathology and clinical laboratory services. Radiological services. Pharmacy services. Dental services. Medical records. Dietary services. Outpatient services. Index.

Note: This book is both an introduction to current methods in hospital management and reference book on hospital organization, policies, and daily administration. Obtaining support for community hospital and the major steps in building such hospital are covered in the second part. Practically all of the rest of the book is devoted to the general and specific problems of organization and management. The long section on the individual clinical services is both statement of good standards and description of such details as lighting and equipment The author—who is now Chief of the Division of Medical and Hospital Resources of the United States Public Health Service—is medical college graduate and nationally known authority on hospital administration.

ROSENFIELD ISADORE

Hospitals integrated design. Second edition completely revised. New York Reinhold Publishing Corporation, 1951 398 p. illus. 30 cm. $15 00 1556

Contents: Integration of facilities. General considerations and functional elements. The nursing unit. Miscellaneous facilities. X-ray and radiation therapy Laboratories and necropsy The operating department. The maternity and pediatrics departments. Service departments. The outpatient department. Communicable disease and tuberculosis hospitals. Cancer and chronic disease hospitals. Psychiatric hospitals. Convalescent, rehabilitation and cardiac hospitals. The small hospital Housing and training facilities. Daylighting for hospitals. Artificial illumination. The mechanical plant. Hospital construction. Details and finishes. Hospital construction cost. Index.

Note (1354*) A survey of good current practice in the design and construction of hospitals Most of the space is devoted to discussions of the various facets of design. Numerous floorplans of modern hospitals are included. Also included are many photographs of rooms and details. The first edition was published in 1947 and was based largely on lectures given by the author at New York University and Columbia University In this edition the scope of the book has been considerably extended and the material reorganized and expanded. There are now over 300 figures. The author is an architect who has specialized for many years in hospital planning.

PERSONAL HYGIENE AND FIRST AID

AMERICAN RED CROSS

First aid textbook for juniors. Philadelphia The Blakiston Company 1949 132 p. illus 22 cm. $1 00. 1557

Contents (abridged) Suggestions for instructors. The certificating course. Materials needed. Need for first aid. Shock. Wounds. Dressings and bandages. Bruises. The circulatory system. First aid for bleeding. Special wounds and eye injuries. The breathing system. Artificial respiration. Artificial respiration and rescues. Poisoning. Body framework. Fractures. Signs of and first aid for fractures. Dislocations and sprains. A general plan for giving first aid. Moving injured or sick persons. Injuries due to heat and cold. Unconsciousness. Common illnesses. First aid kits. Index.

Note. This textbook varies from the standard first aid course of the American Red Cross in that it is specifically designed for young people from twelve to fourteen years old. The descriptions are written in simpler language and the range of injuries covered is less extensive. The book is designed for use in organized classes and the chapters are accompanied by review questions.

COLE, WARREN HENRY, AND CHARLES B PUESTOW

First aid surgical and medical. Illustrated by Carl Linden and Tom Jones. Fourth edition. New York Appleton-Century-Crofts, Inc., 1951 432 p illus. 22 cm. $4.00 1558

Contents: Precautions and limitations in first aid work, by W H. Cole. General principles of first aid—common conditions requiring first aid—material needed, by W H. Cole. Anatomy and physiology by C. B. Puestow Bandaging, by W H. Cole. Wounds, by W H. Cole. Shock—blood transfusions, by C. B. Puestow Injuries to large blood vessels, by Géza de Takats. Burns—frost bite, by F W Gracky Transportation of the injured, by L. Seed. Fractures, dislocations and sprains, by H. B. Thomas and F W Hark. Compound fractures—compound dislocations, by H. B. Thomas and C. W Lambert Gas and brush [illegible], by H. C Lueth Respiratory emergencies, by W H. Cassels. Injuries of the chest, by W Van Hazel. Abdominal emergencies, by W C. Beck. Emergencies of the genito-urinary tract, by C. M. McKenna and J H. Kiefer Wounds of the mouth, face and neck, by L W Schultz. Injuries of the scalp, skull, spine and nervous system, by E Oldberg and P Bailey Medical emergencies, by R. W Keeton and M. M. Montgomery The prostrate patient, by W H. Cole. Civilian versus military casualties, by C. B Puestow Miscellaneous conditions frequently requiring first aid care, by W H. Cole. The feet, by C. B. Puestow First aid in industry by W F Lynn and R. C. Kilbourne. References. Index.

Note. (1316) A book which is inclusive enough to be of practical value not only to laymen who are taking training in first aid but also to nurses and physicians. Some of the material is more advanced than is commonly included in books on first aid treatment but care has been taken to point out where first aid treatment should be given only as a precautionary measure or not at all and the injured or ill person turned over to a physician. Some of the information on treatment is addressed specifically to the physician rather than to the lay worker The third edition was published in 1945. Much of its text has been carried over to this edition. However revisions have been made wherever advances in medicine have made them necessary A chapter has been added on first aid in industry; a section has been added on first aid in atomic warfare and recent literature has been added to the bibliography

DIEHL, HAROLD SHEELY

Healthful living. Third edition revised and enlarged. New York McGraw Hill Book Company, Inc. 1949 595 p. illus. 24 cm. (Whittlesey House health series, Morris Fishbein editor) $5.50. 1559

Contents: Possibilities of longer life and better health. Major health problems. Why we eat and drink. The choice of foods. Weight and its control. Digestive disturbances. Dietary [illegible]. Stimulants and narcotics. Exercise—fatigue—rest. Sunlight and fresh air. Specific disease prevention. Colds and influenza. Care of the nose, throat, and ears. The conservation of vision. Sound teeth. Care of the skin and hair. Glands of internal secretion. Marriage and life. Modern parenthood. Mental health. Health problems of advancing years. Choosing a health adviser. Community health. Organized health work. Appendices. Index.

Note: (1357*) A standard manual of personal hygiene. Its first edition published in 1931 was specifically designed for the general reader but in subsequent editions changes were made to adapt it to use in introductory college courses. The change in title in the present edition apparently reflects a re-direction to the layman. However the scope and contents are not much changed in comparison to the preceding edition. The book remains a substantial and fairly comprehensive guide to reliable health practices, and is characterized by careful description of planned experiments and other scientific foundations for statements on controversial issues, or rather those issues on which the layman is apt to be confused. For example, in the discussion of the treatment of colds the author describes several experiments planned to determine the effects of vaccines, the injection of extra quantities of vitamins, and of cold medicines. The preceding edition appeared in 1945. Numerous minor changes have been made throughout the text, and the type was reset for this edition.

DIEHL HAROLD SHEELY, AND RUTH E. BOYNTON

Personal health and community hygiene a revision of *Healthful living for nurses* Second edition. New York McGraw Hill Book Company Inc. 1951 469 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) $4 75 1560

Contents (abridged) Safeguarding the health of nurses. Mental health. Nutrition and growth. Stimulants. Exercise—fatigue—rest. Sunlight and fresh air. Specific disease prevention. Colds and influenza. Care of the nose, throat, ears, and teeth. The conservation of vision. Care of the skin and hair. Care of the feet. Glands of internal secretion. Sex life and venereal diseases. Modern parenthood. Health problems of advancing years. Community health. Controlling communicable diseases. Animals, insects, and disease. Sanitation and health. Health in school and on the job. Government and health. Voluntary health services. Appendices. Index.

Note. (2709) As a textbook used in nursing schools and in non-professional courses in hygiene under its two previous titles, *Healthful living for nurses* and *Textbook of healthful living*, this book has been a standard tool of instruction for decades. In its present title new material (4 chapters) has been added with its present title on community health and health services. It is written in clear, non-technical language and gives a general understanding of the whole subject without including specific treatments. The [illegible] references, charts, and tables have for the most part been brought up to date.

MARVIN H M

You and your heart a clinic for laymen on the heart and circulation. Foreword by Paul

D White. New York Random House, 1950 306 p. illus. 22 cm. $3.00 1561

Contents: The miracle of health, by H. M. Marvin. Blood and muscle (the circulatory system and how it works) by H. M. Marvin. Internal adventure (short history of man's exploration of his circulatory system) by H. M. Marvin. The heart at birth (congenital defects and their treatment) by H. M. Marvin. Road blocks of the heart (diseases of the coronary arteries) by H. M. Marvin. Hearts in trouble (diseases other than those of the coronaries) by H. M. Marvin. Rheumatic fever (the nature and treatment of rheumatic heart disease) by T Duckett Jones. High blood pressure (our commonest chronic complaint) by Irvine H. Page. Faulty supply lines (diseases of the blood vessels) by Irving S. Wright. The course of prevention (public health aspects of heart disease) by David D. Rutstein. Misapprehensions (some common fallacies about heart disease) by H. M. Marvin. Unanswered questions (the status and the need for research) by H. M. Marvin. Index.

Note. A book for lay readers written by five physicians active in the American Heart Association and the National Heart Institute. T insure clarity the technical papers of the medical men were put into everyday English by non-medical writer. The book is reliable source of information for sufferers from heart disease and other non-physicians interested in the subject. Its purpose is to inform and to allay fear, rather than to encourage self-diagnosis and treatment.

SMILEY DEAN FRANKLIN AND ADRIAN GORDON GOULD

Your health. New York The Macmillan Company 1951 555 p. illus. 22 cm. $4 75 *1562*

Contents: Good health is not just good luck. Building resistance—avoiding infection. Immunity by inoculation. Avoiding nose and throat disorders. Science conquering tuberculosis. Fresh air indoors. Food and health. Preventing intestinal infections. Healthy teeth and gums. Preventing nervousness. Some facts about sleep, play and narcotics. Keeping healthy mind. Keeping up appearances. Exercise—how much, how little? The hygiene of excretion. Combatting heart disease. The hygiene of the sexual system. Social hygiene problems. Safeguarding vision and hearing. Choosing your doctor and hospital. The proprietary remedies—yes or no? You and your health department. When you build that home. When that first baby comes. When your child enters school. If you work in fac tory. If you live in the country. When you pass sixty. Sources of motion pictures on health. Glossary of technical terms. Index.

Note: (1951a) Although designed as text for college freshman courses, this volume has value for the general reader as guide in developing sensible habits of living. The book is based on the author's *College textbook of hygiene* (3rd ed., 1940) but the material has been so extensively revised and rewritten as to constitute new work. Less attention is now given to the structure and functions of the various parts of the body and more emphasis placed on community health problems. Chapter bibliographies are included.

PSYCHOSOMATIC MEDICINE

ABRAMSON, HAROLD ALEXANDER, editor

Somatic and psychiatric treatment of asthma. Baltimore The Williams & Wilkins Company 1951 751 p illus. 24 cm. $11 00 1563

Contents Part I, Basic concepts: The physiology of respiration, by H. E. Hoff and C. G. Breckenridge. Lung volume and air flow characteristics in asthma, by J. L. Whittenberger Experimental asthma, by B Ratner The psychodynamics of respiration, by L. J. Saul and J. W Lyons. Animal allergy by F W Wittich. The influence of experimental neuroses on the respiratory function, by H. Liddell. Part II, General testing and treatment. Office treatment of bronchial asthma, by H. L. Rogers. The differential diagnosis of asthma, by J. Furman. Differential diagnosis charts, by H. A. Abramson. Critical evaluation of diagnostic tests for sensitization, by M. M. Peshkin. Part III, Nature of inhalant allergens and their therapy The nature of pollen allergens, by H. A. Abramson. Chemistry and standardization of pollen extracts, by E. Perlman. The chemical nature of dust allergen, by C Rimington. Oil-seed allergens, by J R. Spies Specific pollen therapy by G. E. Rockwell and E. M. Rockwell. Specific therapy in general, by B. Swinny Pollenosis with negative cutaneous reactions, by M. M. Peshkin. Part IV Somatic therapy Asthma in children, by B. Ratner Treatment of asthma commencing in middle life, by M. M. Peshkin. Diototherapy by H M. Durham. Intravenous treatment of status asthmaticus, by E A. Brown. Antihistaminic agents in the treatment of bronchial asthma, by E. A. Brown. Cortisone and adrenocorticotropic hormone in bronchial asthma, by H. F Colfer. Inhalation of gases, by O A Koelsche. Aerosol therapy of the lungs and bronchi, by H. A Abramson. Experimental asthma in man with aerosols, by H A Abramson and others. Special techniques of aerosol therapy for infants and children, by J. B. Miller Respiratory allergy from the standpoint of otolaryngology by F K. Hansel. Bronchoscopy in bronchial asthma, by F K. Hansel. Surgical treatment of bronchial asthma, by R. H Overholt and J H. Walker Primary irritants and chemical warfare agents, by W Fleischmann Part Psychotherapy Psychodynamic pharmacology in the therapy of asthma, by H A Abramson Maternal rejection in the treatment of bronchial asthma, by H. Miller and D. W Baruch Psychotherapy in bronchial asthma, by H Rose and C. P Wilson. Part VI, Special geography Therapy of asthma in Cuba and other countries of Latin America, by O Estrada de la Riva.

Note This work represents planned effort to coordinate the established knowledge of the allergic bases of asthma with psychotherapeutic techniques. It may be used by specialists in allergy as source of information about the psychotherapeutic aspects and by psychiatrists as source of information about the physiological aspects. The roster of authors comprises specialists in both branches of treatment. The chapters are accompanied by extensive literature references.

ALEXANDER FRANZ

Psychosomatic medicine its principles and applications With a chapter on the functions of the sexual apparatus and their disturbances by Therese Benedek. New York W W Norton & Company Inc., 1950 300 p illus 22 cm. $4.50 1564

Contents. Part one, General principles: Introduction. The role of modern psychiatry in the development of medicine. The influence of psychoanalysis upon the development of medicine. The contribution of Gestalt psychology neurology and endocrinology. Conversion hysteria, vegetative neurosis, and psychogenic organic disturbance. Progress in etiological thought. Methodological considerations concerning the psychosomatic approach. Fundamental principles of the psychosomatic approach. Part two, Emotional factors in different diseases: Emotional factors in gastrointestinal disturbances. Emotional factors in respiratory disturbances. Emotional factors cardiovascular disturbances. Emotional factors in skin diseases. Emotional factors in metabolic and endocrine disturbances. Emotional factors in the disturbances of the joints and skeletal muscles. The functions of the sexual apparatus and their disturbances. Therapy. Bibliography Index of names. Subject index.

Note. The Director of the Chicago Institute for Psychoanalysis has in this book presented an introductory survey of the main concepts of psychosomatic medicine and of their implications in treating disease. The book is written in semi-technical style. It may be read without much difficulty by sophisticated general readers and by professional workers in fields related to medicine. Also its content is substantial enough to make it valuable to general practitioners of medicine in search of generalized presentation. There is bibliography of 160 references.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Life stress and bodily disease. Proceedings of the Association December 2 and 3 1949 New York, N Y With 345 illustrations, 83 tables and 2 color plates Baltimore The Williams & Wilkins Company 1950 1135 p. illus. (part col d) 24 cm. (Association for Research in Nervous and Mental Diseases. Research publications. Vol. XXIX. Editorial board Harold G Wolff and others) $15 00. 1565

Contents (abridged) Part I, Mechanisms involved in reactions to stress Situational stresses and neuropsychological disorder in different personalities, by E. S. Schwab and J. S. Pritchard. The reaction to pain as determined by the galvanic skin response, by M. Fore and J. D. Hardy with the assistance of M. D. Hebner and E. Wolff. Experimental production of human convulsive brain potentials by stress-induced effects upon neural integrative function, by W Barker and S. Barker. Reaction to life stresses following unilateral prefrontal lobectomy or lobotomy by J. E. Scott. Life situations, emotions and idiopathic epilepsy by J. Barrow and others. Some specific factors that modify tolerance for anxiety... mental stress, by H. Liddell. Part II, The problem of specificity bodily reactions during stress. Communications and bodily ... study of vasospastic conditions, by J. Ruesch and A. R. Prestwood. Specificity of bodily reactions under stress, by R. E. Malmo and others. The predictable association of certain emotions and biochemical changes in the blood, by O. Dunbar and others. Life situations and serum antibody titers, by J. L. Zoller and H. G. Wolff. Part III, Life stress and disorders of growth, development and metabolism: Stress and the adrenal cortex with special reference to potassium metabolism, by H. Hoagland. Studies in diabetes mellitus —changes in glucose, ketone, and water metabolism during stress by L. E. Hinkle, Jr and S. Wolf. Fat and carbohydrate metabolism by W R. McCulloch and others. The relation of life stress to arthritis, by L. Hellman. Changes in body heat regulation associated with varying life situations and emotional states, by E. Cantril and others. Life situations, emotions and Graves' disease, by T Lidz and J. S. Whitehorn. Part IV Life stress and disorders of the eye by H. S. Ripley. Part ... Life situations, emotions and glaucoma, by ... Life situations, emotions and Life stress and disorders of the airways ... Variations in the secretion of bronchial mucus during periods of life stress, by ... Psychological mechanisms, by T. H. Holmes and others. Part VI, Life stress and headache: Psychological mechanisms in chronic headache, by A. P Friedman and C. Brenner. Part VII, Life stress and disorders of the stomach: Effects on gastric secretion

of frontal lobe stimulation, by L. M. Davey and others. Variations of gastric functions during conscious and unconscious conflict states, by S. G. Margolin and others. Part VIII, Life stress and diseases of the colon. Life situations, emotions and chronic ulcerative colitis, by W J Grace. Constipation and diarrhea, as reactions to life stress, by T P Almy and others. Part IX, Life stress and diseases of the muscles, joints and periarticular structures: Personality factors in osteoarthritis, by Henry Lihn and others. Part X, Life stress and cardiovascular disease: Possible cortical areas involved in arterial hypertension, by W P Chapman and others. The relation of stress to clotting time, relative viscosity and certain other biophysical alterations of the blood in the normotensive and hypertensive subject, by R. A. Schneider. Character structure in hypertensive persons, by N. W Ackerman. An appraisal of factors that evoke and modify the hypertensive reaction pattern, by S. Wolf and E. M. Shepard. Part XI, Life stress and disease of the skin. The pathogenesis of hives, by D T Graham. Life situations, emotions and atopic dermatitis, by J G. Kepecs and M. Robin. Part XII, Life stress and genital disorders: Disturbances of bladder function associated with emotional states, by L. R. Straub and others. Disturbances in sexual functions during periods of stress, by W H. Gantt. Life situations, emotions and gynecologic pain associated with congestion, by H. C. Taylor Jr Part XIII, A formulation: Life stress and bodily disease, by H. G. Wolff. Index.

Note: A collection of the papers, together with transcripts of discussions, presented on the occasion indicated in the book's title. Altogether there are 49 papers contributed by 111 graduate scientists. As the titles of the papers indicate, "disease" has been interpreted liberally and papers are included on such topics as relations between stress and growth in children, relations between psychological conflict and neuromuscular tension, etc. Many of the papers report the results of recent research carried out by the authors. The book is a primary contribution to the literature of psychosomatic medicine.

BELLAK, LEOPOLD editor

Psychology of physical illness psychiatry applied to medicine, surgery and the specialties. New York Grune & Stratton 1952 243 p. 24 cm. $5 50 1566

Contents: Introduction, by L. Bellak. Psychiatric considerations in general practice, by M. Maier Psychiatry applied to internal medicine, by E. Hammerschlag Psychiatric problems of malignancy by J. A. M. Meerloo and A Zeckel. Psychiatric problems in general surgery by V H. Rosen. Psychiatric aspects of plastic surgery by L. Linn. Psychiatric implications in gynecology and obstetrics, by S. Haas. Psychiatric aspects of diseases of the genitourinary system, by J M. Bilegy Rehabilitation, orthopedics and psychiatry by M. Greyson and A. S. Russek. Eye, nose and throat diseases and psychiatry by A. Zeckel. Psychiatric and psychoanalytic aspects of neurological disease, by A. Romer. Psychiatric aspects of pediatric practice, by M. L Levine Psychiatric aspects of dermatology by M. Hecht. Psychiatric aspects of dentistry, by S J Kesa. The personality of the physician as a factor by L. L. Altman. Index.

Note: Integration of medicine in such a way that the psychological aspects of illness will always be taken into account in diagnosis and treatment is the main theme of this book. The editor points out that a traditional separation of psyche and soma is out of date and states "the alert and informed doctor will use the taking of the medical history as an occasion for appraising not only the psychosomatic aspects of the onset of symptoms, chief complaints, and the like, but also for a stock taking of such emotional involvements as already mentioned. Most of the chapters are devoted to discussions of psychological or psychiatric aspects of specific classes of medical and surgical disorders The book is addressed to general medical practitioners and general surgeons rather than to psychiatrists or specialists in psychosomatic medicine. Essentially it is a statement of a thesis and an outline of the main aspects with literature references for those who wish to pursue particular phases further.

BENEDEK, THERESE

Psychosexual functions in women. New York The Ronald Press Company 1952 435 p illus (part col d) 24 cm. (Studies in psychosomatic medicine of The Institute for Psychoanalysis, Chicago Illinois. Vol. 2) $10.00 1567

Contents: Introduction. General survey of the material. Vaginal smear and basal body temperature techniques of hormone evaluation. General aspects of the application of psychoanalytical method. Interpretation and prediction. A study of two cycles. Critical evaluation of the methods and the discrepancies. The gonadal and the emotional cycle. Personality structure and the sexual cycle. Variations in sexual cycles. Comments and conclusions. The psychosomatic implications of the primary unit mother-child. Climacterium a developmental phase. The functions of the sexual apparatus and their disturbances. Some psychophysiological problems of motherhood. Bibliography Index of names. Index of subjects.

Note. (1942a) A collection of studies based on psychoanalytic investigations of fifteen women of child bearing age, carried out in conjunction with physiologic observations over a period of several years. The aim of the studies was to discover whether a physiological function, such as ovulation, which in animals determines their social behavior, could be recognized in the emotions and behavior of a particular group of emotionally unbalanced women. Although the work does not purport to be a comprehensive presentation of the psychology of women, the findings of the studies are basic information for psychiatrists, gynecologists, and general practitioners of medicine. The first eleven chapters are reprinted from a National Research Council monograph of 1942, of which the co-author was Boris B. Rubenstein. The added chapters include one giving a brief comparison of the psychosexual problems of men and women.

COBB STANLEY

Emotions and clinical medicine. With an introduction on semantics and definitions by John R. Reid. New York W W Norton & Company Inc., 1950 243 p. illus. 21 cm. $3.50. 1568

Contents: Physiology: The anatomy of emotion. The hypothalamus. Cerebral control of emotional expression. Docility ferocity and oral behavior. Endocrinology and the autonomic nervous system. Classification of emotional reactions. Lesions in man associated with changes in emotional behavior Clinical application The neural functions of the emotions and psychosomatic medicine. Anorexia nervosa as a psychosomatic problem. Patterns of personality The problem of specificity in psychosomatic reactions—"constellation of conflict" and "choice of the organ. Emotions and social psychiatry Bibliography Index.

Note: An interpretive synthesis of recently gained knowledge pertaining to the relations among the emotions, certain areas in the brain, and endocrinology The results of frontal lobotomy for instance are summarized as well as the current knowledge of the function of the pituitary The book is written in a semi-technical style and is suited to mature general readers and to professional workers in such fields as child study where a fundamental knowledge of the bases of emotion is useful. The author is a member of the faculty of Harvard Medical School.

CURRENT TRENDS IN THE RELATION OF PSYCHOLOGY TO MEDICINE, by Wayne Dennis and others. Pittsburgh University of Pittsburgh Press, 1950. 189 p. 22 cm. $4.00 1569

Contents: Interrelations of psychology and medicine, by W Dennis. Psychology and public health, by R. H. Felix. Psychology in medical education, by C. Jacobsen. Experimental psychopathology by R. A. Patton. Psychology in neurological research, by Y D. Koskoff. Psychology in relation to psychiatry by P K. Hunton. Psychology and gerontology by N. W Shock. The relation between medicine and psychology in England, by H. J Eysenck.

Note. Similar in plan to the other volumes in this useful series, this book contains lectures that were originally delivered at the University of Pittsburgh under the auspices of the Department of Psychology Each author has devoted himself to the current status and current trends in the area named in the title of his lecture. However some of the authors have also sketched in the historical background. Literature references are included for most of the lectures. The volume is a useful and authoritative summary for advanced college students majoring in psychology and for college graduates with professional interests in the topics.

DORCUS ROY MELVIN AND G WILSON SHAFFER

Textbook of abnormal psychology Fourth edition. Baltimore The Williams & Wilkins Company 1950 717 p. illus. 24 cm. $5.00 1570

Contents: The field and scope of abnormal psychology Sensory disorders. Motor disorders. Brain damage disorders (topographical

and cytoarchitectural relationships) Disorders of association and memory Theories of disorders of the central functions. Desires, feelings, and emotions. Psychosomatic disorders. Sleep, dreams, and hypnosis. Classification and history of mental diseases. Organic psychoses. Functional psychoses. Psychoneuroses. Mental deficiency and psychopathic personality Physical and chemical therapies. Psychotherapy Bibliography Glossary Author index. Subject index.

Note (1377*) A standard work widely used as text for medical students and advanced students of psychology The level of treatment assumes considerable preparation in basic psychology on the part of the reader. In this edition there are three newly added chapters and important revisions have been made in numerous sections carried over from the preceding edition. The extensive and useful bibliography now includes 1200 citations, of which—according to the authors—approximately 230 are new

HOLMES, THOMAS H., AND OTHERS

The nose an experimental study of reactions within the nose in human subjects during varying life experiences By Thomas H. Holmes Helen Goodell, Stewart Wolf and Harold G Wolff With a foreword by Warfield T Longcope. Springfield, Illinois Charles C Thomas 1950 154 p. illus. 24 cm. $4 50. 1571

Contents Review of nasal physiology; objective and method of present study Range of nasal functions in normal subjects. Alterations in nasal function following specific threats to respiratory apparatus. Alterations in nasal function following general threats to bodily integrity Relation of nasal changes to bodily disturbances involving the eyes and deeper respiratory structures. Personality and background of an intensively studied subject. Alterations in nasal function occurring as part of the organism's pattern of adjustment to his environment. Temporal correlation of threatening life situations with nasal disturbances in one hundred patients with chronic or recurrent nasal disease. The relation of nasal to sexual function. The relation of nasal to gastric function. Mechanisms involved in disorders of the nasal and paranasal spaces. Pain from the nasal and paranasal structures—the mechanism of "sinus headache. Considerations and formulation. Summary Index.

Note: A technical report of series of planned observations of the changes in color and other properties of the nasal mucosa and of alterations in nasal and respiratory functions in response to emotional stimuli. The observational methods are described and the results of particular experiments and groups of experiments are commented. A variety of detailed case histories are included. The presentation is technical and is addressed chiefly to medical graduates. The work is of particular interest in psychosomatic medicine.

KALINOWSKY LOTHER B AND PAUL H. HOCH

Shock treatments, psychosurgery and other somatic treatments in psychiatry Second revised and enlarged edition. Foreword by Nolan D C. Lewis. New York Grune & Stratton, 1952 396 p. 24 cm. $8 75 1572

Contents Historical development Insulin shock treatment. The convulsive therapies. Combined insulin-convulsive treatment. Psychosurgery Other somatic treatments. Theoretical considerations. Bibliography Index.

Note (1481) A survey of techniques and experience up to about mid-year 1951 It is based on the literature evaluated in the author's experience and the text is keyed to 33-page bibliography It is addressed to psychiatrists and to neurologists and neurosurgeons, and its purpose is to aid in the appraisal of the value of these relatively new therapies. Much important material has been added in this edition, especially in the chapter on psychosurgery

MASSACHUSETTS GENERAL HOSPITAL. PSYCHIATRIC SERVICE

Case histories in psychosomatic medicine. By the staff of the Psychiatric Service Massachusetts General Hospital, Boston. Edited by Henry H W Miles Stanley Cobb and Harley C. Shands. New York W W Norton & Company Inc., 1952 306 p. illus. 22 cm. $4 50 1573

Note. Twenty-one cases which illustrate considerable range of psychosomatic illnesses are discussed in this book. They illustrate not only varieties and manifestations of psychosomatic medicine but also show expert techniques in diagnosing and treating such cases. Participants in the discussions are for the most part physicians associated with the Massachusetts General Hospital and faculty members of Harvard Medical School. Literature references are included for the most of the papers.

OSBORN, LESLIE A.

Psychiatry and medicine an introduction to personalized medicine. New York McGraw Hill Book Company Inc., 1952 494 p. 24 cm. $7 50 1574

Contents (abridged) Part one, Theoretical considerations: Section one, Nature of the subject: Attitudes to illness. Origin and nature of symptoms. Adaptation and adjustment. Internal medicine and psychiatry Organic mental reactions. Section two, Development and relationship Developmental needs. Mating and parenthood. Maturing and independence. Individuality Friendship and support. Section three, Social living: Self-assertion and freedom. Frustration and its effects. Heredity and its implications. Part two, Practical application Section one, Types of reaction to life's experiences: Descriptive and dynamic psychiatry Degree of reaction. Kind of reaction. Section two, The clinical study: Observing and interviewing. The organic investigation. Psychological testing. Steps in correlation. Section three, Therapy: Psychotherapy Change of environment. Psychosomatic considerations. Relatives and social work. Symptomatic treatment. Helping children. Part three, Mental hygiene. Preventive medicine and psychiatry Appendix. Index.

Note Integration of psychiatry and general medical practice is the chief theme of this book, which was written for use as text in undergraduate courses in medical schools. No previous acquaintance with psychiatric concepts is assumed; and nowhere does the author lean heavily upon technical terminology of psychiatry although he makes use of it after defining it. More often he uses the common language in such passages as "Each person has private thoughts, feelings, wishes, and undeclared motives that he keeps to himself." The author who is Professor of Psychiatry and acting Director of the Wisconsin Psychiatric Institute in the Medical School of the University of Wisconsin, has had extensive experience in both the general practice of medicine and in psychiatry

SULLIVAN ALBERT JOSEPH AND THOMAS E MCKELL

Personality in peptic ulcer Springfield, Illinois Charles C Thomas, 1950. 100 p. illus. 22 cm. $3.00 1575

Contents: Emotional factors in peptic ulcer. Physiologic transition from emotion to ulceration. Theory of multiple etiology Clinical classification of cases. The ulcer personality The criteria for peculiarity The precipitating situation. Inter-relation of various etiologic factors. Observations and predictions. Treatment. Report of cases. References. Index.

Note A short but valuable study of peptic ulcer from the psychosomatic viewpoint. It is based on clinical observation of over 1000 cases and detailed analyses of over two hundred. On these bases the authors divide ulcer patients into four groups (A) the typical ulcer personality (B) definitely psychosomatic cases, (C) cases due to striking external precipitating situation, and (D) those with no personality or situational psychic factors. The typical ulcer personality is described in some detail under these subheadings: drive, versatility emotional responsiveness, self-reliance, religion, marital adjustment, determination, age, sex, race, group specificity [illegible] Eighteen cases typical of the four groups are described in some detail.

WEISS EDWARD AND O SPURGEON ENGLISH

Psychosomatic medicine the clinical application of psychopathology to general medical problems. Second edition. Philadelphia W B Saunders Company 1949 803 p. illus. 24 cm. $10.00. 1576

Contents: Part I, General aspects of psychosomatic medicine: Psychosomatic medicine. Personality development and psychopathology. Psychosomatic diagnosis. Treatment—general principles of psychotherapy. Treatment—"normal" problems in psychotherapy. Treatment—special psychotherapeutic procedures. Training in psychosomatic medicine. Part II, Special applications to general medicine and the specialties: The cardiovascular system. The cardiovascular system—emotional factors in organic heart disease. The cardiovascular system—essential hypertension. The gastrointestinal system. Endocrine system and metabolism. The genito-urinary system and the sexual function. The respiratory system. The central nervous system. Ear and eye. Skin disorders and allergies. Dentistry, arthritis and orthopedic problems. Appendix. References. Selected references. Index.

Note: (1917) A useful treatise based on extensive clinical experience and written in terms of average medical practice. Its purpose is to help graduate medical practitioners who are not specialists in psychoanalysis and psychopathology to differentiate between symptoms of psychic origin and those of organic etiology; to pick out the emotional factors complicating physical disease; to uncover the underlying causes of these emotional disturbances, and to institute therapy. The first-named author is professor of clinical medicine and his associate is professor of psychiatry. The first edition appeared in 1943. The original text was rearranged and widely rewritten for this edition. Also, much material, derived partly from medical experience during World War and partly from additional civilian practice, has been added. The book is suitable for use as survey and orientation guide for graduate physicians and as text in courses in psychosomatic medicine offered to advanced medical college students.

YACORZYNSKI, GEORGE K.

Medical psychology a basis for psychiatry and clinical psychology New York The Ronald Press Company, 1951 535 p. Illus. 24 cm. $6 00 1576a

Contents: Introduction. Part I, Basic psychobiological principles: Biological needs. Emotions. Learning. Perception. Motives. Adjustment to conflicts. Part II, Inheritance and maturation: Introduction to genetic psychology. Inheritance of behavioral responses. Maturation related to physical and physiological factors. Maturation of more complex functions. Part III, Integration—structure and structuralization of personality: Introduction to personality. The biological substratum of personality. Behavioral manifestations of personality. The structuralization of personality. A partial list of some of the more recent texts in psychiatry and clinical and abnormal psychology. Index of names. Index of subjects.

Note: A succinct introductory presentation of the generally accepted principles of human behavior, written for medical college students who are preparing for further study of psychiatry and clinical psychology. The style is more technical and the level of treatment more advanced than would be appropriate in text intended for general college students. Also, there is more emphasis on the underlying physiology. References to papers in which important experiments and clinical studies have been reported are carefully given. The author is Associate Professor of Nervous and Mental Diseases in the Medical School of Northwestern University

PSYCHIATRY

Alexander, Franz, and Helen Ross, editors

Dynamic psychiatry Chicago The University of Chicago Press 1952 578 p. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $10.00 1577

Contents. Part I, *Concepts of dynamic psychiatry:* Development of the fundamental concepts of psychoanalysis, by F. Alexander. Dreams and rational behavior by T. M. French. History of metapsychological concepts, by E. Weiss. Personality development, by T. Benedek. Part II, Clinical psychiatry: Neuroses, behavior disorders, and perversions, by F. Alexander and L. B. Shapiro. Acute neurotic reactions, by L. J. Saul and J. W. Lyons. Emotional disorders of childhood, by M. W. Gerard. Contributions of psychoanalysis to the study of organic cerebral disorders, by H. W. Brosin. Psychodynamic approach to the study of psychoses, by J. C. Whitehorn. Contributions of psychoanalysis to the study of the psychoses, by H. W. Brosin. Principles of psychiatric treatment, by M. Levine. Part III, *Influence of psychoanalysis on allied fields:* The psychosomatic approach in medicine, by F. Alexander and T. S. Szasz. Some relationships between social anthropology and psychiatry by M. Mead Clinical psychology by D. Shakow Animal psychology in its relation to psychiatry by D. M. Levy A review of the influence of psychoanalysis on current thought, by H. W. Brosin. Index.

Note. By "dynamic psychiatry" the editors and authors of this book designate contemporary psychiatry the scope of which has been enlarged by the impact of the theories and techniques of psychoanalysis. The editors state "The advent of dynamic psychiatry is liquidating the isolated existence of psychoanalysis. As a therapy psychoanalysis is being merged with medicine, hence it is accepted as a method of psychiatry As a body of theory it is becoming recognized as a basic science, both in psychiatry and in the social sciences." The various chapters are original papers. The authors include staff members of the Institute for Psychoanalysis, Chicago, and prominent teachers in American medical schools. The work is a survey of orientation value for psychiatrists and others with professional interest in the field. Literature references are included.

American Psychopathological Association

Relation of psychological tests to psychiatry The proceedings of the fortieth annual meeting of the American Psychopathological Association held in New York City June 1950 Edited by Paul H. Hoch and Joseph Zubin New York Grune & Stratton 1952 301 p illus. 22 cm. $5.50 1578

Contents (abridged) Part I, *Historical bases for psychological tests:* What is tested by psychological tests? by R. W. White. Development of clinical tests in psychopathology by L. S. Selling. Theoretical bases of psychometric tests, by L. F. Shaffer Part II, Diagnostic use of psychological tests An experimental criterion for the prognostication of the status of schizophrenics after a three-year interval based on Rorschach data, by Z. A. Piotrowski and N. D. C. Lewis. The diagnostic use of psychological tests from the psychiatrist's standpoint, by O. Diethelm and C. A. Knehr Personality and intelligence—integration of projective and psychometric technics, by S. S. Tomkins. Part III, Presidential address The philosophy of scientific cooperation, by W. J. Tolman. Part IV Influence of exogenous factors on psychological test procedures. The relationship of abstract thinking to the autonomic nervous system in schizophrenia, by A. Meadow and D. H. Funkenstein. The prediction of success in clinical psychology by E. L. Kelly The conditioned reflex function as an aid in the study of the psychiatric patient, by W. H. Gantt. Some theoretical and practical aspects of the diagnosis of early and latent schizophrenia by means of psychological testing, by M. S. Gurvitz and J. S. A. Miller. Part V Influence of the psyche on psychological test performance: Rorschach studies in combat flying personnel, by L. Alexander and A. F. Ax. The use of serial testing in regressive electroshock treatment, by B. C. Glueck, Jr., and others. Illness—the realization of an infant's fantasy with special reference to testing methods, by F. Dunbar The influence of psychopathological emotions on psychological test performance, by L. Welch and T. A. C. Rennie. Index.

Note. A collection of original papers written for delivery on the occasion mentioned in the book's title. Together they represent a wide range of experience with the use of tests in psychiatry and a wide range of information about the usefulness and reliability of such tests. The book is of interest not only to psychiatrists but also to psychologists concerned with the development of tests. Each part of the book except the third is accompanied by one or two discussion papers which are not listed in the above table of contents.

Bellak Leopold

Manic-depressive psychosis and allied conditions With Blaise Pasquarelli, Ernest Parkes Sonya Sorel Bellak and the collaboration of Sydell Braverman. Foreword by Winfred Overholser New York Grune & Stratton, 1952 306 p. illus. 24 cm. $9 75 1579

Content Introduction. Part I, Manic-depressive psychosis: Definition and description. Vital statistics. Etiology. Physiopathologic studies. Psychopathologic studies. Diagnosis and symptomatology. Manic-depressive psychosis in childhood. Treatment. Complications and sequelae. Prognosis. Prevention. Part II, Allied conditions: Psychotic reactions to pregnancy Involutional psychoses. Reactive depressions. Depressions of old age. Suicide. Bibliography Index.

Note. A digest of the world literature. The various chapters consist essentially of abstracts which are keyed to the classified bibliography by mention of authors' names. The coverage is comprehensive and the presentation is non-critical. The index is adequately detailed for a subject approach, but it does not include the names of authors of cited papers.

Bender Lauretta

Child psychiatric techniques diagnostic and therapeutic approach to normal and abnormal development through patterned, expressive, and group behavior Springfield, Illinois Charles C Thomas 1952 335 p. illus. (part col d) 26 cm. $8.50. 1580

Contents Techniques in child psychiatry—a survey. Form as a principle in the play of children. Form principles in the spatial drawings and games of children. Genesis and maturation in children's motor gestalten. Deviations in visual motor gestalten in children. Theories of art and its relation to the psychology and psychopathology of childhood. Abstract art as an expression of human problems. The drawing of a man by children with chronic encephalitis. The art of high grade mental defective children depicting their struggle with emotional disorganization and their primitive perceptual experiences. Beasts in the art and fantasy of children. Animals in the children's art and fantasy of children. Group activities on a children's ward as methods of psychotherapy. The use of graphic art in psychiatric therapy. Clay modeling as a projective technique in child psychiatry. Creative dance. Special Puppet shows as a psychotherapeutic method. The school room attitudes and activities for the problem child. The problem of therapy of a child. The art of children and the problems of modern art. Bibliography. Name index. Subject index.

Note. A book based largely on observations over a period of fifteen years in the children's ward of the Psychiatric Division of Bellevue Hospital in New York City. It does not represent the efforts of a single author as the title page appears to indicate but is composed of papers written by Paul Schilder, Lauretta Bender, and others. Many of the papers have been published elsewhere, but in most instances they ... The use of art in both diagnosis and therapy is stressed.

have been rewritten or extensively revised for this book. There are 33 figures and practically all of these are reproductions of children's art work.

BERGLER EDMUND

The superego unconscious conscience—the key to the theory and therapy of neurosis. New York Grune & Stratton, 1952 367 p. 23 cm. $6 75 1581

Contents: The superego's power and its subterfuges. Impersonal biology and two facts in frustration. Constant "reformulation" of the oral megalo mythical material in the "language" of later stages. The life blood of neurosis—psychic masochism. The slightly paradoxical moral code of the unconscious ego and the mechanism of taking the blame for the lesser crime. *Differences between external and internal justice.* The unconscious process of resolving normal and neurotic guilt. The pseudo-moral connotation of neurotic symptoms. Dreams and inner conscience. First thoughts on awakening, and our daily moods. Are parents or inner conscience to blame for the neuroses of children? The tragicomedy of it all: superego triumphant—some dangling from the shoestring of twin aids. Index.

Note: (1170*) A complementary volume to the author's *The Battle of the conscience*, Washington, D. C., 1948. It contains further original studies on that hidden element of the personality which Freud named the "superego."

BYCHOWSKI GUSTAV AND J LOUISE DESPERT, editors

Specialized techniques in psychotherapy New York Basic Books Inc. 1952 371 p. illus. 22 cm. $5.00. 1582

Contents (abridged) Narcodiagnosis and narcotherapy by P. H. Hoch and F Polatin. Hypnoanalysis as psychotherapeutic technique, by R. M. Lindner The use of the telepathy hypothesis in psychotherapy by J. Ehrenwald. Free painting as an auxiliary technique in psychoanalysis, by M. M. Stern. Group therapy as specialized psychotherapeutic technique, by H. Spotnitz. Simultaneous treatment of both parents and their child, by B. Mittelmann. Adaptations of the psychoanalytic technique for the treatment of young children with atypical development, by B. Rank. Treatment in child schizophrenia—presentation of case, by J. L. Despert. Notes on the development of treatment of schizophrenics by psychoanalytic psychotherapy by F Fromm-Reichmann. Psychotherapy with the crippled and disabled, by G. Bychowski. Dynamic therapy for the stutterer by I P Glauber. Psychotherapeutics of alcoholism, by R. Fox. Some aspects of treatment of sex offenders, by D. Abrahamsen. Psychotherapeutic techniques in psychosomatic medicine, by M. Sperling. Differential psychotherapy of borderline states, by V W Eisenstein. The emergency psychotherapy of depression, by L. Bellak. Rorschach psychoanalytic assessment of personality changes during and after intensive psychoanalytically oriented psychotherapy by Z. Piotrowski and M. Schreiber. Index.

Note. A collection of original papers written by prominent psychiatrists, psychoanalysts and psychologists associated with such organizations as the New York State Psychiatric Institute, New York University-Bellevue Medical Center and the College of Physicians and Surgeons of Columbia University Most of the papers are concise descriptions of recently developed techniques or of the application of psychoanalytic techniques to the treatment of special groups such as sex offenders. Literature references are included with each paper. The viewpoint is Freudian

CAMERON NORMAN AND ANN MAGARET

Behavior pathology Boston Houghton Mifflin Company, 1951 645 p. 25 cm. (Under the editorship of Leonard Carmichael) $5.00. 1583

Contents: Introduction. Behavior organization. Need, stress and frustration—learning and behavior pathology Symbolization, role-taking and emotional reactions. Motivation and function. Behavior pathology in biosocial immaturity: developmental retardation—social deviation. Regression, withdrawal and invalidism. Conflict. Anxiety in normal behavior. Anxiety in behavior pathology Regression. Pseudocommunity and delusion. Autistic community and hallucination. Desorganization. Depersonalization. Deterioration. Therapy in behavior pathology Learning and therapy Name index Subject index.

Note: An outstanding work written from the biosocial viewpoint. The human being is viewed as biological organism learning and maturing in social environment, and pathological behavior is presented as development of dynamic effort to maintain the self in the social environment. The authors state [illegible] we have utilized the principle of continuity—that pathological behavior is related to and derived from normal behavior and that therapy is dependent upon this relationship. Although the whole field is surveyed, many phases are covered in considerable detail. The pertinent literature is copiously cited. Both authors are members of the faculty of the University of Wisconsin and both have had thorough training in psychology and psychiatry

COBB STANLEY

Foundations of neuropsychiatry Fifth revised and enlarged edition of the work formerly known as *A preface to nervous disease*. Baltimore The Williams & Wilkins Company 1952 287 p. illus. 23 cm. $3.00. 1584

Contents: Some general problems of anatomy and physiology Autonomic nervous system. Segmental and suprasegmental aspects of the cerebrospinal nervous system. *Motor integration and locomotion.* Functional localization in the cerebral cortex. Consciousness and the "mind body" problem. Cerebral circulation. Cerebrospinal fluid. General neuropathology The peripheral nerve and muscle. Special neuropathology. Epilepsy Some psychological concepts important in medicine. Some psychopathological reactions. Index.

Note: (1375*) A standard work designed for advanced students and general practitioners of medicine. Though [illegible] basic terminology describes the anatomy and physiology of the nervous system, and correlates them with the chief nervous disorders. In this edition the work has been much revised, particularly in such parts as the chapter on functional localization in the cerebral cortex.

COLBY KENNETH MARK

A primer for psychotherapists. New York. The Ronald Press Company 1951. 167 p. 21 cm. $3 00. 1585

Contents: Psychotherapy—its aim and its basic theory The patient. The therapist. Time and space conditions for the interview Behavior during the interview Beginning the therapy The middle course of therapy Ending the therapy Schizophrenia. Index of subjects. Index of names.

Note: A small book presenting in simple and concise form the elementary principles of psychotherapy Although especially intended for beginners in the field of psychotherapy [illegible]

COLEMAN JAMES COVINGTON

Abnormal psychology and modern life. Chicago Scott, Foresman and Company, 1950 657 p. illus. 25 cm. $4.0 1586

Contents: Part one, Introduction: Abnormal behavior in our times. Development of our modern view of abnormal behavior Part two, Dynamics of normal and abnormal behavior [illegible] and adjustment. Causes of abnormal behavior [illegible] Part three, Abnormal [illegible] Psychosomatic disorders. [illegible] Mental disorders with brain or organic [illegible] and behavior disorders. Alcoholism and drug addiction. [illegible] mental deficiency Part four [illegible] standing, treatment, and prevention [illegible] Therapy The [illegible] Name index. Subject index.

Note: A textbook for use in college courses. [illegible] of California.

FEDERN PAUL

Ego psychology and the psychoses. Edited with an introduction by Edoardo Weiss [illegible]

York Basic Books, Inc., 1952 375 p. 24 cm. $6 00 1587

Contents, Introduction. Part I, On ego psychology: Some variations in ego feeling. Narcissism in the structure of the ego. Ego feeling in dreams. The awakening of the ego in dreams. A dream under general anesthesia. Part II, On the treatment of psychosis: Psychoanalysis of psychoses. Principles of psychotherapy in latent schizophrenia. Mental hygiene of the ego in schizophrenia. Paranoid certainty. Ego psychological aspect of schizophrenia. The ego in schizophrenia. Depersonalization. Ego response to pain. Manic-depressive psychosis. Part III, Narcissism. The ego as subject and object in narcissism. On the distinction between healthy and pathological narcissism. Writings of Paul Federn. Index.

Note: The author of the papers in this book was among the earliest followers of Sigmund Freud and in 1924 when Freud retired he succeeded to Freud's practice in Vienna. He came to the United States of America in 1938 and practiced and taught here until his death in May 1950. Some of the papers were written in English and are here printed for the first time. Notable in this group is a series of three lectures on schizophrenia originally delivered in June, 1949 at Winter's Veteran Hospital in Topeka, Kansas.

FISHER, VIVIAN EZRA

The meaning and practice of psychotherapy New York The Macmillan Company, 1950. 411 p. 22 cm. $5 00 1588

Contents. Part I, A general orientation. Concerning approach and procedure. Part II, Some psychotic and closely related disorders: Early schizophrenic reactions. Manic-depressive reactions. Early paranoid trends. Involutional-melancholic reactions. Psychopathic reactions. Hypochondriacal reactions. Part III, Psychoneurotic reactions. Neurasthenic neurosis. Neurotic anxiety reactions. Some anxiety-equivalent reactions. Anxiety hysteria. Simple phobias. Obsessive-compulsive reactions. Conversion hysteria. Mental regression. Reactive depression. Part IV Some maladjustive psychosocial tendencies and reactions: Suicidal tendencies. Compulsive drinking. Symptomatic feelings of inferiority. Homosexual tendencies. Psychical impotence. Sexual frigidity. Marital discord. Selected readings. Glossary. Index.

Note. The special value of this book lies in its detailed accounts of psychotherapeutic procedures. The author has drawn from his twenty years of practice cases which are typical of the various classes of psychotic and psychoneurotic disorders and has shown how he treated them and what the outcome of the treatment was. The cases are a fair cross-section of what a psychotherapist encounters in practice and they include even such everyday problems as marital discord. Although the author's viewpoint is essentially Freudian, his therapeutic methods are also tempered with common sense. The book is potentially of interest not only to psychoanalysts and to medical graduates preparing for this specialty but also to general practitioners who encounter neurotic patients in their general practice.

FROMM REICHMANN FRIEDA

Principles of intensive psychotherapy Chicago The University of Chicago Press, 1950. 246 p. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $3 75 1589

Contents: Part I, The psychiatrist—personal and professional requirements: Insight into the emotional aspects of the doctor-patient relationship. The psychiatrist's part in the doctor-patient relationship. The psychiatrist's attitude toward cultural and ethical values in its relatedness to the goals of psychotherapy. Considerations of the psychiatrist in the establishment of the treatment situation. Part II, The psychotherapeutic process—the patient and the therapist: The initial interview. Introductory remarks on the psychotherapeutic procedure. Associations, marginal thoughts, physical sensations, and their usage in psychotherapy. Interpretation and its application. How to begin and how to terminate a psychotherapeutic interview. Termination of treatment. Part III, Adjuncts to intensive psychotherapy: The attitude of the psychiatrist toward intercurrent events in the lives of the patient and of the therapist. Contacts with relatives. Reference list. Index.

Note: A principal theme in this book is the importance in psychotherapy of the interpersonal relationships between psychiatrist and patient. After exploring this phase of psychotherapy in the first part, the author then turns to more specific aspects of interviewing and finally she discusses the importance of the psychiatrist's attitude towards such disturbing events in the life of the patient as the death of a close relative, divorce, and severe illness. Also, she discusses briefly the effects of such events on the psychotherapeutic process, when they occur not to the patient but to the psychiatrist. The book is addressed primarily to practicing psychiatrists.

GREENBERG, HAROLD A., AND OTHERS

Child psychiatry in the community: a primer for teachers, nurses, and others who care for children. In collaboration with Julian H. Pathman, Helen A. Sutton, and Marjorie M Browne. New York G P Putnam's Sons, 1950 296 p. illus. 21 cm. $3.50. 1590

Contents: Part I, The child: The child guidance movement in the United States. Personality development. The psychogenesis of behavior problems. Symptoms—diagnosis. Prognosis. Treatment in child guidance clinic. Collaborative therapy. Part II, The clinic team: The psychiatrist. The psychologist. The social worker. Part III, The clinic and the community: The psychiatrist's role as consultant in children's institutions. Emotional problems in a hospital-school for crippled children. Child guidance and the courts. Child guidance and the teacher. Juvenile delinquency. A look to the future. Appendix. Glossary. Selected readings. Index.

Note. The methods and experiences of the Institute for Juvenile Research in Chicago were the basis for the greater part of the content of this introductory authoritative work. However, a broad view of child psychiatry from the community aspect is presented. Current diagnostic and therapeutic techniques that are applicable to work in community clinics and similar organizations are described rather fully although nontechnically. The author is Senior Staff Psychiatrist of the Institute for Juvenile Research.

HINCKLEY ROBERT GEORGE, AND LYDIA HERMANN

Group treatment in psychotherapy: a report of experience. Minneapolis University of Minnesota Press, 1951 136 p. 24 cm. $3.00 1591

Contents: The origins and aims of this study. The function of the group. The function of the therapist. The role of the patient. Dynamics of group movement. Functional mechanics in the group. Highlights from a group. Appendix—case load. Index.

Note: A study of group therapy in practice. It is based on extensive experience in the Students' Mental Hygiene Clinic of the University of Minnesota. The presentation is designed to illustrate both the practical techniques in group therapy and to indicate both the limitations and potentialities of this type of treatment. The text includes [illegible] transcripts of the conversations of groups undergoing therapy. The authors conclude [illegible] well planned and [illegible] fined group therapy is a very valuable method and tool. It differs from individual treatment, but discreetly and skillfully employed it can be well used for many patients as the complete mode of treatment. The first-named author is Associate Professor of Psychiatry and the second-named is Associate Professor of Social Work in the University of Minnesota.

KLEIN, DAVID BALLIN

Abnormal psychology A revision of Edmund S. Conklin's *Principles of abnormal psychology* New York Henry Holt and Company 1951 589 p. illus. 24 cm. $4.75 1592

Contents: Abnormality—perspectives and meanings. A psychological orientation. The self and its dynamisms. Abnormalities of memory and speech. Sensation and perception. Abnormalities of [illegible]. Volitional and intellectual abnormalities. The chemically [illegible]. Dreams, normal and abnormal. Hypnotism and abnormal [illegible]. [illegible]. Psychoneurotic disorders. Functional psychotic disorders. Structural psychotic disorders. A review outline of psychopathology. Therapy—psychoanalytic and allied approaches—non-directive and experimental approaches—physicochemical and surgical approaches. Index.

Note (1943) A substantial textbook in which abnormal psychology is treated as a branch of psychology and not as a discipline exclusively concerned with mental disease. It is addressed primarily to students who are preparing for careers in clinical psychology and is intended as an introduction for those who have acquired

sound knowledge of basic psychology. The reader is offered an inclusive view of the field including accounts of the contributions of Freud and other major figures; descriptions of abnormalities of vision, memory, intelligence, etc.; descriptions of the chief neuroses and psychotic disorders; and a critical discussion of therapeutic approaches. Although based on Conklin's text as indicated in the subtitle, the book is essentially a new work. The author is Professor of Psychology on the faculty of the University of Southern California.

LANDIS, CARNEY, AND M. MARJORIE BOLLES

Textbook of abnormal psychology. Revised edition. New York. The Macmillan Company 1950 634 p. illus. 24 cm. $5.25 1593

Contents (abridged) Section one, Orientation: Description, terminology and orientation. Psychopathology. Section two, Varieties of abnormality: Physical illness. Physical handicap. Hysteria and dissociated personality. Anxiety, compulsive and reactive neuroses. Traumatic neuroses. Manic-depressive psychosis. Dementia praecox—schizophrenia. Involutional melancholia and paranoia. Old age and senile psychoses. Organic disorders of the brain. General paresis. Alcoholism and alcoholic mental disease. Epilepsy. Mental deficiency. Psychopathic personality. Section three, Explanations: Heredity. Culture and environment. Development. The brain. Section four, Psychopathology: Disorders of sensation, perception and action. Disordered emotion. Impairment of intellect. Amnesia and aphasia. Disorders of volition. Section five, Diagnosis and therapy: Psychodiagnosis. Psychotherapy. Educational guidance and counseling. Mental hygiene. Glossary. Index.

Note: (1584*) An introductory text that is designed not only for students who are specializing in psychology, but also for those majoring in such fields as education and sociology. It provides an inclusive view of the field but considerably more space is given to describing and explaining the various types of psychological deviations than is given to diagnosis and therapy. The authors have not favored the theories of any one school but have selected from the various schools what they believe to be the most rational explanations. The first edition appeared in 1946. Much revision and rearrangement is apparent in this edition. Changes have been made in most of the chapters and in some of them, for instance that on alcoholism, they are extensive. Recent literature has been added to the chapter bibliographies.

LEWIN, BERTRAM DAVID

The psychoanalysis of elation. New York W. W. Norton & Company Inc., 1950. 200 p. 21 cm. $3.50. 1594

Contents: Introduction—a psychoanalytic approach to elation. Literary survey of depression and elation. Denial, other defense mechanisms, and the analytic process of cure. Mania and sleep. Additions to the theory of oral eroticism. The oral triad in the elations. Elation and the sense of reality. Bibliography. Index.

Note: A study of elation or "pathological happiness." It is written in the terminology of psychoanalysis and is addressed primarily to specialists in this field. The bibliography is comprehensive.

LOWREY, LAWSON GENTRY

Psychiatry for social workers. Second edition. New York Columbia University Press, 1950. 385 p. 22 cm. $4.50. 1595

Contents: Introduction. The data of psychiatry. Specific etiological factors. Clinical combinations of symptoms. Psychoses of organic origin. Psychoses of toxic origin. Psychodynamics and functional disorders. Cyclothymic (manic depressive) reactions. Schizophrenia (dementia praecox). Paranoia and paranoid conditions. The convulsive disorders. Mental deficiency. The neuroses (psychoneuroses). Psychopathic personality. Behavior and its disorders. Mental disorders in the young. Reactive behavior disorders. Problems of rejection and veterans. The social worker and treatment. Selected reading list. Index.

Note: (1301) An authoritative presentation of psychiatry and abnormal psychology written from the viewpoint of professional social workers. Psychoanalytic concepts and techniques are not discussed in detail. Instead, the book presents the background knowledge and the clinical knowledge that will be useful to the social worker in her contacts with disordered personalities. This edition represents considerable revision and expansion of the original edition. The final chapter is new and sections of several other chapters are new or revised. Statistical data and the bibliography have been brought up to date.

MAIER, NORMAN RAYMOND FREDERICK

Frustration: the study of behavior without a goal. New York McGraw Hill Book Company Inc., 1949 264 p. illus. 23 cm. (McGraw Hill publications in psychology, John F. Dashiell, consulting editor) $4.00. 1596

Contents: Part one, Experimental and theoretical considerations: Introduction. Experimental evidence of abnormal behavior fixations. The characteristics of frustration-instigated behavior. Theoretical implications. Part two, Implications and applications of the theory of frustration: Introduction. Comparison of motivational and frustration-induced behavior problems in children. The influence of reward and punishment on motivation and frustration. Counseling and therapy. Bibliography. Index.

Note: A monograph reporting an experimental program of research on frustration conducted in the author's laboratory at the University of Michigan over a period of ten years and drawing certain conclusions therefrom leading toward a theory of frustration. The reported studies largely utilized sub-human subjects (chiefly rats) but some of the conclusions were checked by comparable experiments on human subjects. The work is of interest to psychologists concerned with abnormal behavior.

MASLOW, ABRAHAM HAROLD, AND BÉLA MITTELMANN

Principles of abnormal psychology: the dynamics of psychic illness. Revised edition. New York Harper & Brothers 1951 665 p. 24 cm. (Under the editorship of Gardner Murphy) $5.00 1597

Contents (abridged) Part I, Introductory concepts: The meaning of "healthy" ("normal") and of "sick" ("abnormal"). Psychosomatics—motivation, emotion, experimental neurosis. Part II, Psychodynamic processes: Unconscious psychological processes—conflict. Frustration and its effects. Disturbances of self-evaluation. Coping with dangers—defenses, amelioration, devious solutions, etc. Part III, The etiology of psychopathology: Constitutional factors. Individual psychogenic factors. Group psychogenic factors. Part IV, Therapy: Aims and nature of psychotherapy. Techniques of psychotherapy in adults. Suggestion and hypnosis. Psychoanalytic therapy. Psychotherapy in children and adolescents. Somatic treatment. Part V, Syndromes in infancy, childhood, and adolescence. Part VI, Syndromes in adulthood: Character disorders. Psychopathic personality. Reactions to shock, threat, or bodily injury (traumatic neuroses). Reactions in which neurotic effects predominate. Reactions in which obsessions and compulsions predominate. Reactions in which disturbed states of consciousness and of memory predominate. Reactions in which bodily complaints predominate. Reactions in which alcoholism and drug addiction predominate. Reactions to conditions of war. Manic-depressive reactions. Schizophrenic reactions. Organic (chemogenic and histogenic) psychotic reactions. Part VII, Syndromes in old age. Glossary. Appendixes: Test procedures—projective methods of examination. The magnitude of the problem of mental disease—statistical data. Bibliography. Author index. Subject index.

Note: A successful textbook which has been widely used since the publication of the first edition in 1941. The information presented in it has been drawn from several fields of science including not only psychology but also anthropology and sociology. Most of it has been gathered from the literature, but the authors' own observations are included too. Their contributions in integrating the material so as to form a coherent survey of abnormal psychology was substantial. They have added information on psychological disturbances in the young and the aged, on the influence of war, on epilepsy, and on somatic methods of treatment. Other parts of the book have been brought up to date. In addition to a bibliography of 1015 items there are annotated reading lists at the end of each chapter.

MAY, ROLLO

The meaning of anxiety. New York The Ronald Press Company 1950 376 p. 22 cm. $5.00. 1598

Contents (abridged) Part I, Modern interpretations of anxiety: Philosophical predecessors to modern theories of anxiety. Anxiety interpreted biologically. Anxiety interpreted psychologically. Anxiety interpreted culturally. Summary and synthesis of theories of anxiety. Part II, Clinical analysis of anxiety: Case studies demonstrating anxiety. Appendix: Anxiety check-lists. Bibliography. Index of names. Index of subjects.

Note. A comprehensive study in which the author examines the various theories of anxiety and finally presents conclusions based partly on a synthesis of this material and partly on his own observations. The first part in which the theories are stated and discussed runs to 234 pages. The remainder of the book is devoted to the analysis of typical cases and to the author's conclusions. The book is written in a lucid style which makes it available to anyone with an elementary knowledge of psychological terms. However, the level of treatment and subject content make it of interest to professional clinical psychologists to whom it is actually addressed.

MEDUNA LADISLAS JOSEPH

Carbon dioxide therapy, a neurophysiological treatment of nervous disorders. Springfield Illinois Charles C Thomas 1950 236 p. illus. 24 cm. $7 50 1599

Contents. Central actions of carbon dioxide. The effect of carbon dioxide upon the function of isolated nerve. The effect of carbon dioxide upon the function of the brain. Technique and administration of the carbon dioxide treatment. Material and statistical data. Argumentation. A neurophysiological theory of psychoneuroses. *Bibliography Index.*

Note A pioneer monograph on the use of carbon dioxide anesthesia in the treatment of psychiatric patients. It is based largely on the author's own researches and applications of the technique. Reports of 100 cases of psychoneurosis and psychosomatic disorders other than obsessive-compulsive neurosis are included. The final chapter is a development of the author's theory that the phenomena of psychiatric conditions can be understood and expressed in certain physiological and biological terms and therefore it is unnecessary to resort to symbolical explanations. *The author is Professor of Psychiatry in the University of Illinois College of Medicine.*

MENNINGER, KARL AUGUSTUS

A guide to psychiatric books with a suggested basic reading list. With the collaboration of George Devereux. New York Grune & Stratton 1950 148 p. 23 cm. (The Menninger Clinic monograph series. No 7) $3.50 1600

Contents Part I, A guide to psychiatric books: Introduction. Basic disciplines. Psychiatry. Psychiatric therapies. Preventive psychiatry and mental hygiene. Part II, A suggested basic psychiatric reading list. Introduction. Basic disciplines. Psychiatry. Psychiatric therapies. *Mental hygiene.* Supplementary list of strongly endorsed books. Index.

Note The main part of this bibliography is a classified arrangement of approximately 1200 selected books. For each book is given the name of the author, the title, the place of publication, the publisher and the year of publication. There are no annotations but certain specially recommended books have been starred. The second part contains a more selected list—119 books—and is a revision of a list that was first published in 1948 in the *Bulletin of the Menninger Clinic.*

MENNINGER KARL AUGUSTUS

A manual for psychiatric case study New York Grune & Stratton 1952 355 p 23 cm. (The Menninger Clinic monograph series. no. 8) $6 75 1601

Contents Part One, The collection and organization of case material. The approach to the psychiatric patient. The collection and recording of historical data. The collection and recording of examinational data. The analysis of the collected data. Part Two, Treatment records: The prescription of a therapeutic program. The record of treatment, developments, and complications. The nature and purposes of case summaries. The re-referral of a patient to the referring physician. Part Three, Case reports. The writing of psychiatric reports and papers. Illustrative case records. Appendix: New American Psychiatric Association nomenclature. Standard Veterans Administration nomenclature (1951). List of personality types. Adjunctive therapy modalities. Model commitment law. References and reading list. Index.

Note. A practical work on orderly procedures in studying psychiatric patients. It deals with methods of history taking; recording of physical, neurological, laboratory and psychological data; the prescribing of therapy and the recording of therapeutic progress and complications. Special problems such as the recording of especially confidential data are discussed in a helpful manner. A long series of illustrated case histories is included. The book is aimed at medical graduates who are beginners in the specialty of psychiatry or who are preparing for this specialty.

PEARSON, GERALD HAMILTON JEFFREY

Emotional disorders of children a case book of child psychiatry New York W W Norton & Company Inc., 1949 368 p. 22 cm. $5.00 1602

Contents: Introduction. The methods of studying a psychiatric problem in a child. The diagnosis and classification of psychiatric problems in children. Anxiety states. Anxiety hysteria. Conversion hysteria. The interrelationships of organic and psychic illness. The obsessional neurosis. The child who is intellectually retarded. The sexual perversions. Psychoses in children. Character neuroses in children. General considerations of the treatment of psychic disorders in children. Index.

Note: A treatise organized around an extensive series of case histories. The histories are used not only to demonstrate the types of neuroses and psychoses to which children are subject but also to show how children's emotional disorders may be diagnosed and managed according to the principles and methods of psychoanalysis. The author has assumed that his readers will have some understanding of basic concepts and terminology of normal and abnormal psychology. The presentation is not highly technical, but the book is more suitable for psychologists and physicians than for general readers and parents.

PROGRESS IN NEUROLOGY AND PSYCHIATRY: AN ANNUAL REVIEW Volume VI. Edited by E. A. Spiegel. New York Grune & Stratton, 1951. 562 p 22 cm. $10 00 1603

Contents: I. Basic sciences: Neuro-anatomy by A. T. Rasmussen. General neurophysiology by Robert Gesell and others. Regional physiology of the central nervous system, by E. C. Hoff and H. Kleitman [illegible]. Neuropathology by A. Ferraro and L. Roizin. Pharmacology of the central nervous system, by A. S. Marrazzi and E. R. Hart. II, Neurology: Clinical neurology by J. C. Yaskin and C. Rupp. Otoneurology by H. B. Perlman. Neuro-ophthalmology—the ocular motor system, by H.-L. Teuber and M. B. Bender. Epilepsy by F. M. Forster. The autonomic nervous system, by A. Kuntz. Neuro-endocrine relationships, by R. Levine and M. A. Goldstein. Cerebrospinal fluid. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. L. Bromley. III, Neurosurgery: Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and surgical infections of the central nervous system, by H. T. Wycis. Brain tumors by L. M. Davidoff and E. H. Feiring. The surgical treatment of pain and motor disturbances, by A. E. Walker and C. E. Hamby. Psychosurgery (surgical aspects) by J. W. Watts and P. B. Dunn [illegible]. IV. Psychiatry: Clinical psychiatry by A. Boyer and E. M. Bluth [illegible]. Mental hygiene, by R. E. Foster and J. C. Bowman [illegible]. Child psychiatry by [illegible]. Forensic psychiatry by W. Overholser. The neuroses, by J. R. Dubo and R. D. Rabinovitch. The neuroses, by E. Weiss and others. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and associates. Alcoholism, by E. B. Allen and C. T. Prout. Projective methods, by L. Bellak and L. Adler. Psychiatric Shock therapy by F. H. Wilcox and [illegible]. Group psychotherapy (psychiatric aspects) by W. Freeman. Psychiatric nursing and occupational therapy, by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and E. F. Hoerner. Index.

— Volume VII. Edited by E. A. Spiegel New York Grune & Stratton 1952 604 p. 24 cm. $10 00 1604

Contents I. Basic sciences: *Neuro-anatomy* by E. C. Crosby and R. T. Woodburne. General neurophysiology by W. Kass [illegible]. Regional physiology of the central nervous system, by W. Ferraro and L. Roizin and E. C. Hoff. Neuropathology by A. Ferraro and L. Roizin. Pharmacology of the nervous system, by A. S. Marrazzi and E. R. Hart. II, Neurology: Clinical neurology by J. C. Yaskin and C. Rupp. *Otoneurology* by H. B. Perlman and J. R. Lindsay. Neurosyphilis, by R. Dattner and M. A. Green. Pediatric neurology by H. W. Baird. Epilepsy by F. M. Forster and R. O. [illegible]. The autonomic nervous system, by A. Kuntz and C. A. Richins. Neuro-endocrine relationships, by R. Levine and M. A. Goldstein. Cerebrospinal fluid. Electroencephalography by M. A. B. Brazier.

by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. L. Scanlan. III, Neurosurgery: Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H T Wycis. Brain tumors, by L. M. Davidoff and E. H. Feiring. The vascular system, by A. E. Walker and J. D. McQueen. Psychosurgery by W Freeman and J W Watts. IV Psychiatry: Clinical psychiatry by A. Simon. Genetics in neurology and psychiatry by T Sjogren and B. Hallgren. Mental hygiene, by H. Freed. Forensic psychiatry by W Overholser. Criminal psychopathology, by S. B. Maughs. Child psychiatry by R. D. Rabinovitch and S. Dubo. The neuroses, by J. H. Masserman and others. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and others. Projective methods, by L. Bellak and D. Brower. Group psychotherapy by S. R. Slavson and others. Shock therapy, by P H. Wilcox and L Adler. Psychiatric nursing and occupational therapy by A. E. Bennett and R. Engle. Rehabilitation, by M. Marks and L. B. Greene. Index.

Note. (1401) Each chapter of these volumes is essentially descriptive literature digest keyed by means of text numbers to an extensive bibliography. The series is addressed to graduate practitioners and its obvious purpose is to enable such readers to keep abreast of the current literature and to select for fuller reading those articles of particular interest. The successive volumes in the series are organized on the same pattern. Section titles and chapter titles vary little from one volume to the next and the editor and publisher aim at an average size of 400 pages. The actual content of each chapter is of course different in each issue since it is based on the year's periodical literature.

Pumpian Mindlin E , editor

Psychoanalysis as science the Hixon Lectures on the scientific status of psychoanalysis. Stanford, California Stanford University Press 1952 74 p. 24 cm. $4.25 1605

Contents: Experimental approaches to psychoanalysis, by E. R. Hilgard; Psychodynamics. Psychotherapy Problems and techniques of psychoanalytic validation and progress, by L. S. Kubie; Introduction. Fundamental propositions of psychoanalysis The position of psychoanalysis in relation to the biological and social sciences, by E. Pumpian Mindlin. References. Index.

Note: A collection of lectures which were delivered first at the California Institute of Technology The authors together describe the content of psychoanalysis, critically evaluate it and discuss certain psychoanalytic techniques and interpretations. The style of presentation varies from non-technical to semi-technical. The book is valuable one for educated readers who desire an authoritative point of view of contemporary psychoanalysis.

Ruesch Jurgen and Gregory Bateson

Communication, the social matrix of psychiatry New York W W Norton & Company Inc., 1951 314 p. illus. 22 cm. $4.50 1606

Contents. Values, communication, and culture. Communication and human relations. Communication and mental illness. Communication and American values American perspectives. Communication and the system of checks and balances. Information and codification. Conventions of communication. Psychiatric thinking. The convergence of science and psychiatry. Individual, group, and culture. References. Index.

Note. In this book, authored by psychiatrist and by an authority on cultural anthropology the society which presses upon every individual person and the means (communication) by which the impress made are studied from the standpoint of their effects upon psychiatric theory and techniques. The authors state, "While, in the past, theories of personality were concerned with one single individual, modern psychiatrists have come to the realization that it is necessary to see the individual in the context of social situation. The authors also pay attention to the effects of society upon psychiatrists and especially upon contemporary psychiatric thinking The book is addressed primarily to psychiatrists and secondarily to sociologists.

Sarason Seymour B

Psychological problems in mental deficiency New York Harper & Brothers, 1949 366 p. illus. 22 cm. (Under the editorship of Gardner Murphy) $5 00 1607

Contents: Criteria of mental deficiency Problems in classification. Problems in the diagnosis of brain injury Problems in test interpretation. Garden-variety mental deficiency Cultural factors in the etiology of garden-variety deficiency Cerebral palsy Other forms of mental deficiency Projective techniques. Psychotherapy Bibliography Author index. Subject index.

Note: A critical study of potentialities and applications of psychological and psychiatric theories and techniques in the diagnosis and therapy of mental deficiencies. The author states this book is evidence of my own belief that the psychological problems in mental deficiency are as intriguing, puzzling and pressing as those found in any other clinical group." It is based largely on the literature including the author's own writings. The bibliography contains 319 citations. Since the names of the authors of the cited papers are assembled in the author index, the book can be used also as guide to the literature of this specialty The author is Associate Professor of Psychology at Yale University

Saul, Leon Joseph

Bases of human behavior a biologic approach to psychiatry Philadelphia J B Lippincott Company 1951 150 p 24 cm. $4 00. 1608

Contents: Part one, The power of the emotional forces—psychodynamics as basic science The place, the scope and the goals of dynamic psychiatry Part two, Motivation and its effects: Emotional forces can affect the physiology Emotional forces can affect the physiology to produce symptoms Emotional forces can affect the physiology to produce tissue damage. Emotional forces can affect perception, thinking, feeling and behavior. Scheme of operation of emotional forces Part three, Elements of psychodynamics: The organism as unit The structure of the mind. Development of the mind. Basic biologic forces in the mind. Appendix: The nature of neurotic reactions Index.

Note. Primarily an introduction to psychiatry this work can be used also as an introduction to the study of behavior or of personality The author views it as book on dynamic psychiatry or "psychodynamics, and he defines the latter term as "the science of motivations of biologic organisms. The unity of the living organism, the roots of behavior in basic physiologic processes, and the interactions of psychologic and physiological reactions are emphasized. Only the main ideas of the field are discussed and the book is written in style that makes it available to wide circle of readers both within and without the professions of psychology and psychiatry

Scheidlinger, Saul

Psychoanalysis and group behavior a study of Freudian group psychology New York W W Norton & Company Inc., 1952 245 p. 22 cm. $3 75 1609

Contents: Part one, The Freudian concepts of group relations: The social tendencies of man—a historical background. The Freudian theory of the drives and social tendencies. Basic group processes. The role of the leader. Intra- and inter-group conflicts. Part two, Implications and applications: The Freudian concepts of group relations—a recapitulation. Some implications of Freudian group psychology The Freudian concepts and other fields of group study Psychoanalysis and educational practice. The relationship of psychoanalysis to group psychotherapy Bibliography Index

Note The author believes that the emotional factors in group behavior have not been given sufficient importance by the psychologist. The purpose of his book, written for social psychologists, group workers, and teachers, is to summarize the contributions of the orthodox Freudians to our understanding of group psychology The author does not favor the point of view of one school over others He has merely assembled and classified the concepts of the Freudians in the field. In his examination of psychoanalytic concepts methods of therapy and research have not been discussed. There are thirteen pages of bibliography including books, pamphlets, and periodical literature with full author and title notations

Sheldon, William Herbert

Varieties of delinquent youth an introduction to constitutional psychiatry with the collaboration of Emil M. Hartl and Eugene McDermott. New York Harper and Brothers, 1949 899 p. illus. 23 cm. $8.00 1610

Contents (abridged) Part one, *Orientation for* biological humanics: Orientation. Glossary 1—definitions basic to the constitutional approach. The psychiatric variables; outline for an operational psychiatry. Part two, Two hundred biographies: Glossary 2—glossary for the Hayden abridgement for biography. The biographies. Part three, Psychiatry of delinquency: Biological delinquency. The social psychiatry of delinquency. Epilogue. Index.

Note: An elaborate technical presentation of a thesis which says essentially that a person's behavior is closely related to his bodily structure or somatic type. "Constitutional psychiatry" is thus diametrically opposed to the Freudian concept of the mind and its effects upon behavior and personality patterns. It leads to a view that delinquency is a result of the weakness of the human stock—a stock which is currently declining in quality according to the author. The text is buttressed with 200 case histories, each one of which is accompanied by three photographs which show the body type of the subject. The work is based on a ten-year study of delinquent youths at the Hayden Goodwill Inn, a Boston social agency. The author is Director of the Constitution Laboratory of the College of Physicians and Surgeons, Columbia University.

SILVERBERG, WILLIAM V

Childhood experience and personal destiny a psychoanalytic theory of neurosis. New York Springer Publishing Company Inc., 1952 289 p. 22 cm. $4.50 1611

Contents: Introduction—the need for a theory of personality. Toward a theory of personality and neurosis. The areas of early experience. The first experiential area—problems of orality and deprivation. The second experiential area—problems of discipline. The third experiential area—problems of rivalry and genitality. Psychotherapeutic aims. Bibliography. Index.

Note: A new theory of neurosis based upon the theories of Freud but going beyond them in broadening the range of childhood experiences which may cause psychic trauma. The categories of experiences which the author believes affect mental health are named in the sub-titles of the third, fourth and fifth chapters above. The author stresses the importance of the experiences of the first six years of life. The book is written in the technical terminology of Freudian psychoanalysis. The author is Clinical Professor of Psychiatry in New York Medical College.

SLAVSON SAMUEL RICHARD

Analytic group psychotherapy with children adolescents, and adults. New York Columbia University Press 1950 275 p. illus. 23 cm. $3 75 1612

Contents: Historic backgrounds and current practices. Transference and substitution in group psychotherapy. Catharsis, regression, and anxiety. Direct and derivative insight. Ego strengthening, catharsis displacement, sublimation, and reality testing. Some specific dynamics in analytic group therapy. Functions of the group therapist. Play group psychotherapy with pre-school children. Activity-interview psychotherapy with children in latency. Analytic group psychotherapy with girls in puberty. Analytic group psychotherapy with adolescent girls. Analytic group psychotherapy with adults. Analytic group psychotherapy in an institution. Selection and grouping of patients. The use of groups in the treatment of psychotics. Glossary. Index.

Note: (2041) Three types of group psychotherapy are described and illustrated in this work: group play psychotherapy for pre-school-age children, activity-interview group psychotherapy for certain older children, and interview group psychotherapy for adolescents and adults. A generous portion of the volume is given over to records of actual sessions at the Jewish Board of Guardians, a child guidance agency in New York City. Short extracts from records are selected to illustrate or heighten the meaning of theoretic statements. Full records of six sessions are included with condensed interpretations and brief discussions of dynamics as related to the therapeutic process. The book is a companion work to the author's *An introduction to group therapy* New York, 1943.

STRECKER, EDWARD ADAM

Fundamentals of psychiatry Fifth edition. 21 illustrations. Philadelphia J B Lippincott Company 1952 250 p. illus. 24 cm. $4.50. 1613

Contents: The importance and the opportunities of psychiatry. Etiology. Classification of mental diseases. Further thoughts about nomenclature and classification. Methods of examination and symptoms. Organic psychoses. Toxic psychoses. Functional psychoses and psychoneuroses. Psychosomatic medicine and psychiatry. Defect reaction types. Treatment including psychotherapy. Psychiatry and war. The nurse and the psychiatric patient. Glossary. Index.

Note. (1409) A standard manual of information on the concepts of psychiatry which the author believes are essential to general practitioners in their regular practice. By writing in a terse style and addressing himself to persons already educated in medicine, the author has succeeded in covering much ground in a small space. He emphasizes the importance of psychiatry and the importance of an understanding of psychiatric concepts and techniques on the part of medical men in general practice and in other specialties. The main change in this edition in comparison to preceding ones is the addition of the chapter on treatment.

STRECKER, EDWARD ADAM, AND OTHERS

Practical clinical psychiatry By Edward A. Strecker Franklin G. Ebaugh and Jack R. Ewalt. Section on Psychopathologic problems of childhood by Leo Kanner Seventh edition. Philadelphia The Blakiston Company 1951 506 p. illus. 24 cm. $7.00. 1614

Contents: Personality development and function. *Methods of psychiatric examination.* The organic reaction type. Toxic psychoses. The affective reaction types. The schizophrenic reaction types. The constitutional psychopathic inferior. Reactions of developmental and constitutional defects. Paranoid reaction types and paranoia. Traumatic reactions. Psychoneuroses. Psychosomatic medicine. "Support" psychotherapy. Pathologic drinking. Psychopathologic problems of childhood. Index.

Note: (1410*) A standard, widely-used medical college textbook. It presents a broad, fairly detailed view of the subject in a relatively small space. Case histories are used freely in the presentation and the areas of contact among psychiatry, internal medicine and other specialties are indicated. The book is useful also to general medical practitioners as an authoritative source of information about contemporary clinical psychiatry. The sixth edition was published in 1947. In this edition the major changes are a revised statement of classification in the second chapter and the addition of the chapter on "support" psychotherapy. Less extensive changes have been made in other chapters and recent literature has been added to the bibliographies.

WATKINS JOHN GOODRICH

Hypnotherapy of war neuroses a clinical psychologist's casebook. New York The Ronald Press Company 1949 384 p. illus. 23 cm. $5 00 1615

Contents. Part I, Military neuroses: Introduction. Psychotherapy in a military setting. *Theoretical bases of treatment.* Strategy and tactics. Part II, Hypnotherapy: *Hypnosis, past and present.* Inducing trance states. Hypnotherapeutic techniques. *Advanced* [illegible] therapeutic techniques. Part III, *Individual case studies:* [illegible] to the case studies. Aphonia. Amnesia. Stuttering. Tremor. [illegible]. Phobia. Psychogenic skeleto-muscular reaction. Part IV, The conversion hysteria. Camptocormia. Hysterical paralysis. [illegible] hypnoanalytic treatment of an entrenched phobia. [illegible] old man. The problem is much deeper. Conflicts: [illegible] personalities. The battle of Mr. Y. Dreams of [illegible] X [illegible] Y. The masquerade is ended. Part V, Evaluation: Summary. Glossary: Military terms. Professional terms. Bibliography. Author index. Subject index.

Note: A report of psychotherapy done by the author in the neuropsychiatric division of an Army convalescent hospital during and immediately after World War II. The men whose treatment is described in the case studies were men of various backgrounds who became neurotically ill during their Army service as a result of the stress of war. The cases were selected from a much larger number in order to illustrate the different forms which war neuroses—the "shellshock" of 1918—may take and the variations of therapeutic attack necessary to bring about improvement. The cases are introduced by an account of the nature and purposes of wartime psychotherapy, the theoretical basis of the author's work, and the nature of hypnotherapeutic techniques. The case studies include the quoted transcripts of extended sessions between hypnotherapist and patient.

WATSON, ROBERT IRVING

The clinical method in psychology New York Harper & Brothers, 1951 779 p. 22 cm. (Under the editorship of Gardner Murphy) $5.00. 1616

Contents (abridged) Part I, Introduction The clinical method. Part II, Diagnostic appraisal: The functions of diagnosis. Observation and rating in clinical diagnosis. The diagnostic interview Tests as diagnostic instruments. Procedures in diagnostic testing. The Wechsler-Bellevue intelligence scale. Revised Stanford-Binet tests of intelligence. Performance tests of intelligence. The Vineland social maturity scale. Diagnostic testing of infants and preschool children. Tests of memory and conceptual thinking. The projective approach to personality evaluation. The Rosenzweig picture-frustration study The thematic apperception test. Part III, Psychotherapy: The psychotherapeutic values to be found in diagnostic materials. The common factors in psychotherapy Some systematic approaches to psychotherapy Psychotherapy with children. Group psychotherapy. Indirect methods of treatment. Name index. Subject index.

Note: This text on the application of psychological principles and techniques to the problems of the individual is designed primarily for advanced college students. The treatment of diagnosis is more detailed and written on higher level than that of psychotherapy where the author has been intentionally descriptive rather than critical. Projective techniques other than those listed in the contents are treated only sketchily and case studies are used only when needed to complete understanding of basic methods. However the extensive, up-to-date bibliographies included with each chapter refer to much additional material. The author is faculty member of the Department of Neuropsychiatry of Washington University's School of Medicine.

MENTAL HYGIENE AND POPULAR PSYCHIATRY

CARROLL, HERBERT ALLEN

Mental hygiene the dynamics of adjustment. Second edition New York Prentice-Hall, Inc. 1951 448 p. illus. 22 cm. $6.35 1617

Contents: Introduction. Mainsprings of human behavior The need for physical security The need for emotional security The need for mastery The need for status. Learning behavior disorders. Adjusting to frustration. Neurotic adjustments. Psychotic adjustments. The school and the community Mental superiority and deficiency The role of measurement. Regaining mental health. Questions for study and discussion. Bibliography Index.

Note. (1410*) A textbook on mental hygiene written especially for two groups of college students: (1) those beginning work as "majors" in psychology; (2) those who are not "majoring" in psychology but are interested in learning something of the dynamics of adjustment for personal or professional enrichment or advancement. Emphasis in the book is upon the application of principles rather than upon theory as such. In the second edition about two-thirds of the material is carried over from the first with minor changes the remaining one-third is new Several of the chapters, including those on motivation and learning, have been almost completely rewritten. Statistical data have been brought up to date and additional research studies and case material included. The final chapter serves as transition to courses in clinical psychology

DOLLARD JOHN AND NEAL E. MILLER

Personality and psychotherapy an analysis in terms of learning, thinking, and culture. New York McGraw Hill Book Company Inc., 1950 488 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $7 50. 1618

Contents (abridged) Part I, Orientation. Part II, Basic principles of learning. Part III, The normal use of the mind in solving emotional problems Introduction to higher mental processes. The role of words and sentences in arousing drives, mediating rewards, and producing foresight. Reasoning and planning Social training in the use of higher mental processes. Part IV How neurosis is learned: Social conditions for the learning of unconscious conflicts. How symptoms are learned The unconscious—how repression is learned. Part The new conditions of therapeutic learning: Selecting patients who can learn. Free association—permissiveness and the compulsion to utter Transference—generalized responses in the therapeutic situation. Labeling—teaching the patient to think about new topics. Teaching the patient to discriminate—role of past and present. Part VI, Conflict Why conflicts and misery can be relieved only in real life The dynamics of conflict—their implications for therapy A hypothesis concerning alcohol, barbiturates, and lobotomy Part VII, Special aspects of therapy Ways of getting rid of symptoms. Techniques of therapeutic intervention. How therapy can go wrong. Part VIII, Two applications to normal living Self-study Suppressing troublesome thoughts to get freedom for creative thinking. Bibliography Name index. Subject index.

Note An original and interesting presentation of the principles and potentialities of psychotherapy in the resolving of neuroses. Both the formation of neuroses and their therapy are explained in terms of the learning process and of interactions between individuals and society The point of view is synthetic one based on the principles of Freud and his school, the findings of experimental psychology and on social psychology The organization and style of the book are such that persons not trained in psychology or psychoanalysis can read it with profit On the other hand the main theme and the content will be of interest to persons who are professionally concerned with psychoanalysis and personality study There is an extensive bibliography The authors are staff members of the Institute of Human Relations of Yale University.

HORNEY, KAREN

Neurosis and human growth the struggle toward self-realization. New York W W Norton & Company Inc., 1950. 391 p. 22 cm. $4 50 1619

Contents: Introduction—a morality of evolution. The search for glory Neurotic claims. The tyranny of the should. Neurotic pride. Self-hate and self-contempt. Alienation from self. General measures to relieve tension. The expansive solutions—the appeal of mastery. The self-effacing solution—the appeal of love. Morbid dependency. Resignation—the appeal of freedom. Neurotic disturbances in human relationships. Neurotic disturbances in work. The road of psychoanalytic therapy Theoretical considerations. Reference headings. Index.

Note A penetrating study of neurosis viewed as special and unfortunate form of human development. It is designed for lay readers primarily and is written in the same clear convincing style that has characterized this author's other books.

HUGHES, MARGARET MARY, editor

The people in your life psychiatry and personal relations, by ten leading authorities. New York Alfred A. Knopf 1951. 278 p. 21 cm. $3 50 1620

Contents Man—woman, by Eric Fromm. Husband—wife, by L. S. Kubie. Parent—child, by F. H. Allen. Age—youth, by F. J. Braceland. Race majority—race minority, by M. Mead. Brother—brother [illegible]. Race majority—race minority, by [illegible]. Pupil—teacher by C. Kluckhohn. Friend—friend, by J. A. P. Millet. Employer—employee, by L. H. Bartemeier. Pastor—parishioner, by O. R. Rice. Citizen—community by G. S. Stevenson.

Note: The ten lectures here collected were first delivered as courses in psychiatry sponsored by Town Hall of New York. Conceived in tone and keyed to the background and understanding of the average layman, they serve as sound introduction to any one who seeks from psychiatry better comprehension of himself and of the society of which he is part. Included in the text and contributing to its worth are questions and answers transcribed from the discussion which followed each lecture when it was presented. Lacks index.

LEMKAU PAUL VICTOR

Mental hygiene in public health. New York McGraw Hill Book Company Inc., 1949 396 p illus. 23 cm. (McGraw Hill series in health science, Amos Christie, consulting editor) $5 50. 1621

Contents (abridged) Part 1, The place of mental hygiene in public health The field of mental hygiene. The field of public health. Mental hygiene as public health responsibility. Public health practices and mental hygiene. The attack on the problem. The [illegible] Part 2 The development of the individual: The period of infancy—[illegible]. The prenatal and natal period. The adolescent [illegible]. The preschool period. The school period. The adolescent period. The young adult period. The period of middle age. The period of old age. Summary and prospect. Appendix: Review of psychopathological states. List of visual aids. Author index. Subject index.

Note. This book follows the organization of course in mental hygiene given by the author in the School of Hygiene and Public Health of the Johns Hopkins University It gives practical discussion of the elements of mental hygiene in an overall program of public health and preventive medicine.

McKINNEY, FRED
Psychology of personal adjustment, students' introduction to mental hygiene. Second edition New York John Wiley & Sons, Inc., 1949 752 p illus. 22 cm. (Wiley publications in psychology Herbert S Langfeld, advisory editor) $6 00 1622

Contents: Introduction. Adjustment to college work. Concentration, learning, and thinking. Personal efficiency. Understanding oneself. Development of personality. Creative adjustment. Personal orientation. Vocational selection. Social adjustment. Social proficiency and leadership. Affections and conventions. Marital adjustment. Emotional stability. Self-confidence. The adjusted personality. Appendix. Name index. Subject index.

Note: (3002) A well-written and eminently practical discussion of the emotional and psychological problems which face the average college student. The book stresses the student's point of view and is designed for use as text in introductory psychology courses and for individual reading. In this edition it has been revised and enlarged to incorporate the latest trends and developments in the field of personal adjustment. A chapter on development of personality has been added, and new case studies have been included. The chapter bibliographies have also been brought up to date.

MILBANK MEMORIAL FUND
Epidemiology of mental disorder Papers presented at a round table at the 1949 annual conference of the Milbank Memorial Fund, November 16–17 1949 New York Milbank Memorial Fund, 1950 198 p. 23 cm. Paper $0 50 1623

Contents: Part I, Review of available material on patterns of occurrence of mental disorder: Introduction, by R. H. Felix. Minor disorders, by E. Lindemann and others. Major disorders, by E. M. Gruenberg. Part II, Evaluation of this material: Evaluation of this material, by J. H. Dingle and T. Francis, jr. Part III, Plans for study of the epidemiology of mental disorder: Plans for study of the epidemiology of mental disorder—most urgent problems to be investigated, by R. P. Knight. A proposal for research in the epidemiology of psychiatric disorders, by A. H. Leighton. An epidemiologic analysis of suicide, by J. E. Gordon and others. Review of available material on patterns of occurrence of mental disorders—major disorders, by E. M. Gruenberg. List of participants.

Note: A collection of original papers, together with transcripts of the discussions of them at the round table named in the book's title. The "Review of available material on patterns of occurrence of mental disorders, by E. M. Gruenberg, is classified bibliography of 342 references. The book is of particular interest to persons concerned with the public health aspects of mental disorders.

STECKLE LYNDE CHARLES
Problems of human adjustment. New York. Harper and Brothers, 1949 351 p. illus. 22 cm. [Under the editorship of Gardner Murphy] $3.00 1624

Contents Introduction. Man the animal. Emotional living. Mind-body. Realistic living. The road to neurosis. The main problems of life. Security in sex. Courtship and marriage. Happiness in work. The search for God. Maturity in old age. A realistic outlook on life. Bibliography. Index

Note The author of this book states "college students, professional persons, industrialists, factory or clerical workers,—in fact all mankind—must face and resolve certain fundamental issues of living. The theme here presented is that these issues obtain problem status only when man attempts to meet them with inadequate preparation. The book is nontechnical, commonsense discussion aimed at general readers and college students. It is well documented with references to more than 270 books and papers. The author is professional psychologist.

STRECKER EDWARD ADAM
Basic psychiatry New York Random House, 1952 473 p. 21 cm. $3 75 1625

Contents: Introduction. Causation. Classification or naming. Examination and symptoms. The organic psychoses. Toxic psychoses. "Functional" psychoses. Manic-depressive and schizophrenic psychoses. Paranoia and paranoid conditions. Psychoneuroses. The psychoneuroses and psychosomatics of pregnancy and childbirth. Pathological drinking. Mental defects. Constitutional psychopathic inferiority. Treatment. The silver cord. A design for childhood. The psychiatry of war. Postscript. Index.

Note. A book for laymen and other non-specialists on the human problems which develop need for psychiatric attention. The common psychiatric ailments are described with case studies to point up the descriptions and make them more concrete to the reader. The language is relatively simple and the total work paints broad picture of what the psychiatrists are currently able to do in discovering causation and treating mental ailments. The author is Professor of Psychiatry at the University of Pennsylvania.

THORPE, LOUIS PETER
The psychology of mental health. New York The Ronald Press Company 1950 747 p. illus. 21 cm. $5.25 1626

Contents: Part I, The problem of mental health. Modern society and mental health. Part II, The psychodynamics of mental health. Basic needs and mental health. Psychoanalysis and mental health. Nature and evaluation of mental health. Adjustment mechanisms and mental health. Part III, Personality and mental health: Mental health and the organization of personality. Physiological factors in personality and mental health. Development of personality. Part IV Conditions marked by moderate mental health. Minor personality maladjustments. Psychosomatic disorders. Hostile behavior. Deviate sexual behavior. The psychoneuroses. The functional psychoses. Part Improving mental health: Mental health and the home. The school and mental health—teacher-pupil relationships—subject matter and administrative aspects. The community and mental health. Diagnosing mental health and personality. Therapeutic methods and readjustment. Glossary of technical terms. Author index. Subject index.

Note A comprehensive text written at the college level and designed for use in courses on mental hygiene, dynamics of personality, etc. Its wide scope makes it useful also as an orientation survey for such professional people as teachers and social workers. Particular attention is paid to the significance of home and school experiences in relation to mental health. Source articles and books are cited in footnotes throughout the book and the chapters conclude with lists of recommended readings. The author is Professor of Education and Psychology in the University of Southern California.

WALLIN JOHN EDWARD WALLACE
Personality maladjustments and mental hygiene a textbook for students of mental hygiene, psychology education, sociology and counselling. Second edition. New York Mc Graw Hill Book Company Inc., 1949 581 p. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $5.50. 1627

Contents (abridged) Part I, Introduction: The concept of mental health and mental hygiene. The remedial, preventive, and positive objectives of the mental-hygiene program. The physical, psychological, and social factors or elements of the mental-hygiene program. The educational elements and implications of the mental-hygiene program. Types of children with whom mental hygiene is concerned. Psychotherapeutic methods. Part II, Symptoms of personality maladjustment as evidenced by inadequate or unwholesome modes of response to difficulties. Specific types of faulty methods of solving life's problems, with preventive and remedial suggestions. Bibliography. Author index. Subject index.

Note: (3011) An introduction for the classes of readers named in the subtitle. For book at this level it is exceptionally inclusive. All of the common types of personality maladjustments are described in some detail. Also, fully as much attention is given to normal resolving of mental difficulties and the developing of balanced personalities. A feature of the book is large number of short autobiographical sketches that illustrate personality maladjustments including those of intellectually normal and superior individuals. The first edition was published in 1935. For this edition the chapters of the original edition were subdivided and regrouped. One new chapter has been added and there are many new sections within chapters. The bibliography is an extensive one and in this edition it covers literature published as late as 1948.

PSYCHOLOGY

GENERAL

ANASTASI, ANNE, AND JOHN P FOLEY, JR.
Differential psychology individual and group differences in behavior Revised edition New York The Macmillan Company, 1949 894 p. illus. 22 cm. $6 00 1628

Contents: Part I, Historical and methodological orientation: Historical introduction. Basic concepts of psychological testing. Nature and extent of individual differences. Heredity and environment. Part II, Analysis of individual differences: Biological factors in simple behavior development. Psychological factors in simple behavior development. The effects of practice. Schooling and intelligence. Age differences. Family resemblance. Twins and foster children. Bodily conditions and behavior. The quest for constitutional types. Variability within the individual. Trait organization. Part III, Major group differences: The subnormal. Genius. Sex differences—basic problems—major results. Racial comparisons—problems of grouping—problems of measurement. Racial versus cultural differences. Socio-economic differences. The individual as member of multiple groups. Index.

Note: (3073) A textbook in which differential psychology is presented as one approach to the understanding of behavior and in which the experimental knowledge upon which differential psychology is based is organized and summarized. The book is designed primarily for upperclass undergraduate college students who are majoring in psychology. Long lists of literature references are included. In addition to their usefulness in connection with the study of the book, these have some utility as guides to the knowledge and the literature of such subjects as psychological differences between the sexes. In this edition the book has been extensively revised and much enlarged.

ANNUAL REVIEW OF PSYCHOLOGY Volume 3 Calvin P Stone, editor Donald W Taylor associate editor Stanford, Calif Annual Reviews, Inc. 1952 462 p. 23 cm. $6.00 1629

Contents: Child psychology, by V Nowlis and H. H. Nowlis. Learning, by H. F Harlow. Vision, by H. Helson. Hearing, by W R. Garner. Somesthesis and the chemical senses, by C. R. Wendt. Individual differences, by L. G. Humphreys. Personality by H. J Eysenck. Social psychology and group processes, by M. B. Smith. Industrial psychology by C. W Brown and E. E. Ghiselli. Comparative and physiological psychology by H. W Nissen and J Semmes. Abnormalities of behavior by J Zubin. Clinical methods: Psychodiagnostics, by A. Magaret. Clinical methods: psychotherapy by V C. Raimy. Counseling: therapy and diagnosis, by W M. Gilbert. Educational psychology by J. E. G. Flemming. Statistical theory and research design, by Q McNemar. Motivation, by O. H. Mowrer. Indexes.

Note: The sections or papers in the present volume of this recently established review are essentially literature digests after pattern. The series is addressed to graduate psychologists and serves both as a review of progress and guide to the recent literature. Names of authors of all the cited papers are entered in the author index and detailed subject index covers the contents of the entire volume.

BORING EDWIN GARRIGUES
A history of experimental psychology Second edition. New York Appleton-Century Crofts, Inc., 1950. 777 p illus. 24 cm. (The Century psychology series Richard M. Elliott, editor) $6 00. 1630

Contents (abridged): Orientation: The rise of modern science. Origin of modern psychology within science: Psychophysiology in the first half of the nineteenth century. Phrenology and the mind-body problem. Physiology of the brain, 1800–1870. Specific energies of nerves. Physiological psychology of sensation, 1800–1850. Hypotheses. The personal equation. Origin of modern psychology within philosophy: Beginning of modern psychology—Descartes, Leibnitz and Locke. British empiricism—Berkeley Hume and Hartley. British associationism—the Mills and Bain. German psychology before 1850—Kant, Herbart and Lotze. The founding of experimental psychology: Gustav Theodor Fechner. Hermann von Helmholtz. Wilhelm Wundt. Establishment of modern psychology in Germany. Establishment of modern psychology in Great Britain. Establishment of modern psychology in America. Later trends in modern psychology: Gestalt psychology. Behaviorists. Brain function. Dynamic psychology. Index of names. Index of subjects.

Note: The first edition of this scholarly work appeared in 1929 and rapidly attained the status of classic. The original text was rather extensively rewritten for the present edition. The author has stated that about half of the new edition is new writing. The scope is still the psychology of the general [illegible], human, normal, adult mind as revealed in the psychological laboratory and the range in time is now from about 1840 to about 1940. In spite of much subdivision by nation, school, and other groups the effect of the book is that of [illegible] of the subject. The narrative is studded with names, dates, and titles of works. However, these are integrated in historical narrative in which the author clearly and authoritatively delineates the contribution of each school and movement and evaluates the significant work of each psychologist mentioned.

BRUNSWIK, EGON
The conceptual framework of psychology Chicago The University of Chicago Press, 1952 102 p. illus. 24 cm. (International encyclopedia of unified science. Vol. 1, no. 10) $2 00. 1631

Contents: Experience and the emergence of the objective approach. The functional unit of behavior and the level of complexity of psychological research. Misconceptions of [illegible] in psychology. Conceptual approach and constructive crisis in psychology. Converged on objective functional approach. Bibliographical notes.

Note: A critical study of the concepts and methodology of psychology. The author deals mainly with the problems in these areas which are posed by the two basic approaches, the objective and the functional, or molar. In examining these problems he describes and evaluates very concisely the concepts and methodologies of the chief schools of psychology and of the major individual contributors to psychological thought. There is long, partly annotated bibliography.

CRAFTS LELAND WHITNEY AND OTHERS
Recent experiments in psychology By Leland W Crafts, Theodore C. Schneirla, Elsa E. Robinson, and Ralph W Gilbert. Second edition. New York McGraw Hill Book Company Inc. 1950. 503 p. illus. 24 cm. (McGraw-Hill publications in psychology Clifford T Morgan consulting editor) $4.00 1632

Contents (abridged): A study of attitudes toward [illegible] among college students. The origin of the cat's responses to rats and mice. Migration and the "instinct" problem. Competition and cooperation. The physiology of emotional behavior. Facial expression in emotion. The perception of obstacles by the blind. The duplicity theory of vision. The function of the brain in relation to intelligence. Organic nervous diseases in relation to behavior. The electrophysiology of the nervous system. The effect of distraction upon the performance of certain tasks. A comparison of the intelligence of "racial" and national groups in Europe. The conditioning of vasomotor responses. The importance of organization for retention and transfer. Methods of breaking undesirable habits. Conflict and experimental neuroses in cats. Problems in the perception of the vertical in space. Perception and memory as influenced by attitude and experience. Implicit muscular activities during thinking. Projection and the thematic apperception [illegible].

perception test. The opinion-polling technique as used in study of the effects of bombing on Japanese morale. Index.

Note: (3018) A college textbook that serves as an introduction to the methods of current experimental psychology and to some notable results of modern experiments. In general, in each of the chapters several experiments are specifically described, then the methods and findings are both discussed. Although some technical terminology is employed, the book is easy to read and most of it can be grasped by the average educated reader without the aid of an instructor. In this edition the work contains seven chapters that did not appear in the original edition and there are other important changes.

CURRENT TRENDS IN PSYCHOLOGICAL THEORY by Wayne Dennis and others. Pittsburgh University of Pittsburgh Press, 1951 213 p. 22 cm. $4.00. 1633

Contents: Developmental theories, by W Dennis. Theories of personality by R. Leeper. Learning theories, by H. F Harlow Theories of perception, by J. J. Gibson. Cognition and motivation in psychological theory by D. Krech. Theories of psychotherapy by D. McK. Rioch. Brain and behavior by W S. McCulloch. Principles and problems of theory construction in psychology by H. Feigl.

Note: A collection of lectures originally delivered at the University of Pittsburgh in February 1951 under the auspices of the Department of Psychology The authors include professors of psychology and psychiatry from leading American universities. Each of the authors has outlined the current status of specific area of psychology and has indicated the probable direction of further developments. A list of literature references accompanies each lecture. Although addressed to advanced college students majoring in psychology and graduate psychologists, the book is handy and authoritative survey for anyone with professional interests in the field.

GARRETT, HENRY EDWARD

Great experiments in psychology Third edition. New York Appleton-Century-Crofts, Inc., 1951 358 p. illus. 24 cm. (The Century psychology series edited by Richard M. Elliott) $3.50. 1634

Contents: Pavlov and the conditioned reflex. Franz's and Lashley's studies of the role of the brain in learning. Thorndike's laws of learning. Köhler's experiments in perception and learning and their importance for Gestalt psychology Thorndike's and Woodworth's experiments on the transfer of training and their influence upon the doctrine of formal discipline. Ebbinghaus's studies in memory and forgetting. Watson's studies of the behavior of the human infant. Cannon and experimental studies of the emotions. Experimental approaches to personality study McDougall and social psychology Binet and the individual intelligence test. The Army tests—Alpha, Beta, and AGCT Galton and the measurement of individual differences. Visual and auditory perception—the work of Helmholtz and others. Cattell's studies of reaction time. Weber's and Fechner's laws and the development of psychophysics. Index.

Note. (3018a) The plan of organization in most of the chapters of this book is first to describe classical experiment, then to show what has followed it. The author's interpretation of these significant experiments and his evaluations of the theory built upon them are in themselves contributions to psychology The book is used mainly by college students of psychology However, some chapters as those on intelligence testing are also useful to laymen and to persons in professions other than psychology The second edition was published in 1941. In this edition the scope and purpose of the book are unchanged but considerable rewriting is evident in most of the chapters. Revisions and additions have been made in the text and new literature has been added to the bibliographies now printed at the ends of the chapters. The chapter on "McDougall and social psychology" has been added. The order of the chapters has been rearranged and the order of topics within the chapters has also been revised.

HAYEK, FRIEDRICH AUGUST VON

The sensory order an inquiry into the foundations of theoretical psychology With an introduction by Heinrich Klüver Chicago Illinois The University of Chicago Press, 1952 209 p. 22 cm. $5.00. 1635

Contents: The nature of the problem. An outline of the theory. The nervous system as an instrument of classification. Sensation and behaviour. The structure of the mental order. Consciousness and conceptual thought. Confirmations and verifications of the theory Philosophical consequences. Bibliography Index.

Note: Professor Hayek, an eminent economist, was at one time student of psychology This book is presentation of his theory of sensory order and the relations between physical and sensory phenomena. It is his thesis that "sensory perception must be regarded as an act of classification. He approaches this problem of classification to determine the relationships between experience and the relationship to the condition which makes experience possible. The work is philosophical and theoretical and is designed to pose problems for future consideration as well as to stabilize some of the material already known and available.

JEFFRESS LLOYD A., editor

Cerebral mechanisms in behavior the Hixon symposium. New York John Wiley & Sons, Inc., 1951 311 p illus. (part col d) 23 cm. $6.50 1636

Contents: The general and logical theory of automata, by J. von Neumann. Why the mind is in the head, by W S. McCulloch. General discussion. The problem of serial order in behavior by K. S. Lashley Functional differences between the occipital and temporal lobes with special reference to the interrelations of behavior and extracerebral mechanisms, by H. Klüver Relational determination in perception, by W Köhler. Brain and intelligence, by W C. Halstead. General discussion. The symposium from the viewpoint of clinician, by H. W Brosin. Name index. Subject index.

Note: The edited transcripts of lectures and discussions presented at symposium held September 20–25 at the California Institute of Technology under the auspices of the Hixon Fund Committee. The symposium was planned as step in the integration of experimental results and knowledge from several fields of science which impinge on the relations between behavior and brain. The level of discussion is advanced and the book is addressed to such readers as graduate psychologists, neurologists, and biologists.

KUHLEN RAYMOND G AND GEORGE G THOMPSON editors

Psychological studies of human development. New York Appleton-Century-Crofts, Inc. 1952 533 p. illus. 24 cm. (The Century psychology series edited by R. M. Elliott) $3.50 1637

Contents (abridged): Foreword to students. Physical factors in psychological development. Processes of learning and adjustment. Psychological growth under different social-cultural conditions. Intellectual changes with age. Intelligence and psychological adjustment. Patterns of language-conceptual growth. Interest patterns and their implications. Growth of social values and attitudes. Social development—interpersonal relations. Home and family relations. Adjustments in school. Vocational orientation and adjustment. Some factors in personal and emotional adjustment. Index.

Note: An anthology of selections or "readings" chosen for college students who are majoring in developmental psychology child psychology or in other fields where knowledge of the psychological aspects of human development is essential. There are 71 papers or selections, classified under the headings given above. Most of them are abridged, but the abridgments were skillfully done and reference is always given to the original publication. As to the criteria for selection, the editors state: "The present papers have been selected to provide sampling both with respects to important areas of research in the psychology of human development and with respect to broad age-levels of the life span. An effort has been made to provide papers which utilize great variety of research procedures or which summarize group of studies as means of arriving at broader generalizations which extend theory

LAWRENCE, MERLE

Studies in human behavior a laboratory manual in general psychology organized to stress the basic principles of individual and group behavior with emphasis on perception. Princeton Princeton University Press, 1949 184 p. illus. 28 cm. $3.50 1638

Contents (abridged): Instructions regarding laboratory work. General introduction. Part I, Sensory experience. Part II, The nature of

experience. Part III, Social factors and perception. Part IV The process of learning. Part V Individual differences.

Note: Most of the space in this book is devoted to descriptions of 24 laboratory experiments designed "with the object of presenting some of the more important basic concepts that flow through general, social and clinical psychology. The directions for carrying out each experiment are prefaced in most instances by a paragraph or two of discussion addressed to the student and intended to indicate the significance of what will be demonstrated. Illustrations of apparatus are usually included in many instances. The book is based on a laboratory course in introductory general psychology given at Princeton University.

LE CRON LESLIE M editor

Experimental hypnosis. A symposium of articles on research by many of the world's leading authorities. New York The Macmillan Company 1952 483 p illus. 21 cm. $6.00 1639

Contents: Introduction, by L. M. LeCron. Hypnosis in perspective, by G. W Williams. *Dynamics in hypnotic induction*, by J A. Christenson, Jr. A rapid method for the induction of hypnosis, by J E. Whitlow Deep hypnosis and its induction, by M. H. Erickson. *Hypnotic susceptibility as a function of waking suggestibility* by W D. Furneaux. Narcotic hypnosis, by J. S. Horsley A study of age regression under hypnosis, by L. M. LeCron. Rorschach psychodiagnosis in hypnotic regression, by B. A. Mercer. Time distortion in hypnosis, by L. F Cooper and M. H. Erickson. The influence of hypnosis in somatic fields of function, by F J. Kohler The control of the heart rate by hypnotic suggestion, by A. J Van Pelt. Hypnosis in obstetrics, by W T Heron and M. Abramson. Hypnodontics, by A. A. Moss. Hypnosis in dentistry by T O. Burgess. Extrasensory perception and hypnosis, by J B. Rhine. Antisocial uses of hypnosis, by P C. Young. Hypnosis and dissociative states, by G. Odencrantz. Automatic writing and hypnosis, by A. M. Muhl. Projective hypnoanalysis, by J G. Watkins. The hypnoanalysis of phobic reactions, by J. M. Schneck. Index of names. Index of subjects.

Note. A collection of independent papers reporting on research in hypnosis itself rather than on practical applications. Most of the articles are here published for the first time, having been prepared at the invitation of the editor, who has furnished the introduction, the connecting material between chapters, and one of the articles. The editor and 14 of the contributors are from the United States, of those from other countries, three are English, one is Danish, one is Swedish, and one is South African. The papers deal with the experiments of their authors, and report the techniques, results, and allied research. Most of the papers are accompanied by bibliographies.

MARX, MELVIN HERMAN editor

Psychological theory contemporary readings. Arranged and edited by Melvin H. Marx. New York The Macmillan Company 1951 585 p. illus. 22 cm. $5.00 1640

Contents (abridged) Part one, Theory construction. The general nature of theory construction, by M. H Marx Psychology and the science of science, by S S Stevens. Operationism and theory construction, by G. Bergmann and K W Spence. Types of constructs in psychology by K. W Spence The intervening variable, by E. C. Tolman. The conceptual focus of systems, by E Brunswik. The molar-molecular distinction, by R. A Littman and E. Rosen The emphasis on molar problems, by G. W Allport. The probability point of view by E Brunswik. The mathematical point of view by C. L. Hull. Topology and hodological space, by J. F Brown. Factor analysis, by L. L Thurstone Operational analysis, by D G. Ellson. The nature of field theory by K Lewin Psychoanalytic propositions, by E. Kris. Part two, Theory foundations The gestalt interpretation of perception, by K Koffka. The psychology of objective relations, by E Brunswik. Connectionism, by E. L. Thorndike. Contiguity theory by E. R. Guthrie Descriptive behaviorism, by B. F Skinner The Freudian theory of anxiety by S. Freud. Principles of psychosomatic research, by F Alexander Social theory of neurotic conflict, by K Horney The frustration-aggression hypothesis, by N E Miller Stimulus-response theory of anxiety by O. H. Mowrer Approaches to personality by G. Murphy Stimulus-response theory in social psychology by N E. Miller and J. Dollard. The basic personality structure, by A Kardiner Index.

Note: A collection of short papers and excerpts, most of which are reprinted from previously published work. The value of the book lies in the assembly of authoritative writings on psychological theory

MUNN NORMAN LESLIE

Handbook of psychological research on the rat, an introduction to animal psychology Boston, Mass. Houghton Mifflin Company 1950 598 p. illus 25 cm. (Under the editorship of Leonard Carmichael.) 1641

Contents: Introduction. Unlearned behavior. General activity Motives, emotions, and hoarding. Sensory processes. The role of sensory processes in maze behavior The learning process. Some aspects and conditions of learning. Systematic psychology Abnormal and social behavior Appendices. Books on comparative psychology. Some additional references on comparative psychology Bibliography Index of authors. Index of subjects.

Note (3103) This work supersedes the author's *An introduction to animal psychology: the behavior of the rat*, published in 1933. The new work includes extensive revisions of former conclusions made necessary by investigations and research in the intervening years. It also includes certain fields of animal psychology not covered in the earlier book behavior disorders, social behavior, emotional behavior and systematic psychology Illustrative material consists of 130 figures, many of them picturing mazes and other apparatus used in psychological testing, and 13 tables showing data resulting from experiments. The bibliography of more than 1300 entries covers publications in all languages on rat behavior.

MURPHY GARDNER

Historical introduction to modern psychology Revised edition. New York Harcourt, Brace and Company 1949 466 p. illus. 22 cm. $6 00 1642

Contents (abridged) Part one, The antecedents of modern psychology The intellectual background. The seventeenth century The eighteenth century The early nineteenth century Part two, The rise of the research spirit Some intellectual antecedents of experimental psychology British psychology in the mid-nineteenth century. The theory of evolution. Psychiatry from Pinel and Mesmer to Charcot. German physiological psychology in the age of Helmholtz. Wundt and experimental psychology Early studies of memory The influence of neurology 1840–1910. The Würzburg school. Experiments on the acquisition of skill. Part three, Contemporary psychological systems: Behaviorism. Modern conceptions of association. Gestalt. Field theory Sigmund Freud. The response to Freud. Part four Some representative research areas: The measurement of intelligence. Physiological psychology Child psychology. Social psychology Personality An interpretation. Bibliography Index of names. Index of subjects.

Note: Concentrating upon the nineteenth and twentieth centuries, the author traces the course of developments which transformed psychology from a discipline reflecting upon the nature and the activities of the mind to a science akin to other biological sciences relying upon experimental and mathematical methods. Emphasis is upon the results of research work rather than upon the progress of psychological theory In the new edition several new chapters have been added and every chapter dealing with the modern period (i. e. after Wundt and James) has been entirely rewritten in order to bring the picture up to date.

PRONKO N H AND OTHERS

Empirical foundations of psychology by N H. Pronko and J W Bowles, Jr with the collaboration of D T Herman, Harris Hill, and John Bucklew Jr New York Rinehart & Company Inc. 1951 464 p. illus. 22 cm. $4.25 1643

Contents. Introduction. Heredity and psychology The natural biography the psychological life history of organisms. Biological characteristics of the organism and early acquisition of behavior. Basic patterns of behavior Social behavior. Personality Intelligence. Attention. Perception and factors which affect it. Implicit or "thinking" behaviors. Feelings. Emotion. Nature of stimulus-response coordination. Remembering. Learning. Interrelationships between physiology and psychology Name index. Subject index.

Note A book of selections or "readings" in modern psychology suited for use in connection with a general introductory textbook of psychology Many of the articles are reprinted from journals of psychology Many of the articles are dated between 1941 and 1948, with a few inclusions from earlier years. The remainder over half the contents of the book, was written especially for the book by the five authors whose names are on the title page.

RIESEN AUSTIN HERBERT, AND ELAINE F KINDER

Postural development of infant chimpanzees a comparative and normative study based on the Gesell behavior examination. With a foreword by Henry W Nissen. New Haven Yale University Press 1952 204 p illus. 24 cm. $5.00. 1644

Contents: Introduction. Posture as behavior. General postural characteristics of the chimpanzee. Subjects and procedures. Treatment of data and methods of presentation. Comparative data—postural development of chimpanzee and man. Postural schedule for chimpanzee infants. Individual differences in postural development among the chimpanzee subjects. Discussion. Summary Bibliography Index.

Note: This book contains detailed report of comparative behavior study of chimpanzee infants and human infants during their first year of life. Both groups of infants were tested on 202 items of the Gesell and Thompson behavior examination and the data obtained are carefully tabulated and analyzed to indicate differences in postural development of each species. The material, which is primarily of interest to students of psychology is part of larger study being conducted at the Yerkes Laboratories of Primate Biology regarding the physical, psychological, and behavioral development of chimpanzees.

SNYGG DONALD AND ARTHUR W COMBS

Individual behavior a new frame of reference for psychology New York Harper & Brothers, 1949 386 p. 22 cm. (Under the editorship of Gardner Murphy) $3.50 1645

Contents. Part I, The personal approach to behavior: The challenge to psychology The personal frame of reference. How behavior changes. What people strive for. The way we are motivated. The phenomenal self in action. People under threat—the anatomy of maladjustment. Techniques of dealing with threat. Part II, The personal approach applied: Social structure and action—the individual approach. The goals of education. The task of the teacher. Diagnosis and research in phenomenological systems. The personal approach to therapy—inductive methods—self-directive methods. Part III, The personal approach as method of science. The place of phenomenological approach in psychology Appendices. Bibliography Index.

Note: The heart of this distinctive book is phenomenological system for the study of individual behavior system in which the field of observation is shifted from the experience of the observer to the experience of the behaver The authors show that the basic human need is the preservation and enhancement of the phenomenal self, and they define the phenomenal self in the following terms: "The phenomenal self includes all those parts of the phenomenal field which the individual experiences as part or characteristic of himself. The first part of the book is carefully stated and fairly detailed outline of the proposed system. The second part illustrates the application of the system in various fields of psychology and the third part is short discussion of the inadequacies of other approaches to the study of behavior. The bibliography runs to more than 200 references.

STEVENS, STANLEY SMITH editor

Handbook of experimental psychology New York John Wiley & Sons Inc. 1951 1436 p. illus. 23 cm. (A Wiley publication in psychology, Herbert S Langfeld advisory editor) $15 00 1646

Contents: Mathematics, measurement, and psychophysics, by S. S. Stevens. Physiological mechanisms: Excitation and conduction in the neuron, by F Brink, Jr. Synaptic mechanisms, by F Brink, Jr. Sensory mechanisms, by T C Ruch. Motor systems, by T C Ruch. Homeostasis, by E. W Dempsey Growth and development: Mechanisms of neural maturation, by R. W Sperry Ontogenetic development, by L. Carmichael The genetics of behavior by C. S. Hall Growth curves, by N W Shock Phylogenetic comparison, by H. W Nissen. Motivation Instinctive behavior: reproductive activities, by F A. Beach. Learnable drives and rewards, by N E. Miller. Emotion, by D. B Lindsley Learning and adjustment: Methods and procedures in the study of learning, by E. R. Hilgard. Animal studies of learning, by W J Brogden Human learning and retention, by C. I. Hovland. Theoretical interpretations of learning, by K. W Spence. Cognitive processes, by R. Leeper. The psychophysiology of learning, by C. T Morgan. Speech and language, by G. A. Miller. Sensory processes: Basic correlates of the visual stimulus, by D. B. Judd. Visual perception, by C. H. Graham. The psychophysiology of vision, by S. H. Bartley Basic correlates of the auditory stimulus, by J. C. R. Licklider. The perception of speech, by J. C. R. Licklider and G. A. Miller The mechanical properties of the ear by G. von Békésy and W A. Rosenblith. Psychophysiology of hearing and deafness, by H. Davis. Taste and smell, by C. Pfaffmann. Somesthesis, by W L. Jenkins. Vestibular functions, by G. R. Wendt. Time perception, by H. Woodrow Human performance: Selection, by H. P Bechtoldt. Training, by D Wolfle. Engineering psychology and equipment design, by P M. Fitts. Work and motor performance, by R. H. Seashore. Name index. Subject index.

Note: A technical survey of most of the field of experimental psychology written by 34 eminent U. S. A. psychologists. Each of the chapters depicts the contemporary state of its phase of the subject in some detail with frequent references to the literature; and some of them appraise the immediate present and near future of the subject at hand The work is generously illustrated with drawings, charts, and diagrams. Each chapter has its own bibliography The volume is an important reference book for graduate students and research workers in psychology

THORNDIKE, EDWARD LEE

Selected writings from a connectionist's psychology New York Appleton-Century Crofts, Inc. 1949 370 p. illus. 22 cm. $3.50 1647

Contents: The law of effect. The spread or scatter phenomenon. The influence of punishments. The influence of the repetition of connection. The influence of mental systems. The influence of the impressiveness of the first member of related pair. Analytic and selective processes. The psychology of thinking in the case of reading. Ideo-motor action. The influence of primacy Mental abilities. The constitution of arithmetical abilities. Heredity and environment. Mental fatigue. Valuations of certain pains, deprivations, and frustrations Valuations of achievements, acts, and persons. Personality The origin of language. The psychology of semantics. The psychology of labor. Science and values. *Darwin's contribution to psychology* Index.

Note. A selection made by the author, himself, of his writings published over considerable span of years. On his criteria for selection he has stated: "I have, in fact, had in mind especially the needs of teachers who wish their students to know something of connectionist psychology at first hand, but find *Human learning* and *Man and his works* far too superficial, and my books of recent date far too long and too burdened with evidential matter. The book includes number of papers in which were reported important advances in the psychology of learning together with miscellaneous essays on language, science, etc.

TOLMAN EDWARD CHACE

Collected papers in psychology Berkeley University of California Press, 1951 269 p. illus. 25 cm. $4.50 1648

Contents: A new formula for behaviorism. Can instincts be given up in psychology? A behavioristic account of the emotions. Behaviorism and purpose. Purpose and cognition. A behavioristic theory of ideas A behaviorist's definition of consciousness. Sign Gestalt or conditioned reflex? Gestalt and sign Gestalt. Psychology versus immediate experience. Operational behaviorism and current trends in psychology The acquisition of string pulling by rats. Determiners of behavior at choice point. Physiology psychology, and sociology Prediction of vicarious trial and error by means of the schematic sowbug. Psychological man. A drive-conversion diagram A stimulus-expectancy need-cathexis psychology Cognitive maps in rats and men. Bibliography

Note: This volume contains selection of papers together with complete bibliography of the publications of one of America's outstanding psychologists whose best known book is *Purposive behavior in animals and men*, New York, 1932. It is commemorative volume sponsored by *colleagues and former students of Professor Tolman's.* However the papers printed in it were selected by Tolman himself as representative of significant steps in the development of his psychological theory

VINACKE, WILLIAM EDGAR

The psychology of thinking. New York McGraw Hill Book Company Inc., 1952 392 p. 24 cm. (McGraw Hill publications in psychology *Clifford T Morgan, consulting editor*) $5 50 1649

Contents: Introduction. Historical background. Consciousness and the field of attention. Ideas, imagery and imageless thought. The mechanism of thinking. Logic in relation to the psychology of thinking. Concept formation. The transfer-retroaction sequence. Problem solving. Imagination. Autistic thinking. Creative thinking. The internalization of experience. General aspects of personalized thinking. Attitudes. Public aspects of personalized thinking. Conclusion. Name index. Subject index.

Note: A survey in which knowledge from various areas of psychology that bears on the thinking process in human beings has been assembled and organized. It is addressed primarily to intermediate-level college students; hence familiarity with accepted psychological terminology and some acquaintance with the methods of experimental psychology have been assumed. The book was based on an extensive literature survey and statements in the text are keyed to literature citations in the bibliographies appended to each chapter. The author is a faculty member of the University of Hawaii.

TEXTBOOKS

ANDERSON, JOHN E.

The psychology of development and personal adjustment. New York Henry Holt and Company 1951 720 p. illus. 22 cm. $3 90 1650

Contents (abridged) Why study human adjustment? Section 1 Equipment for living: The body and the nervous system. Life span and the development of the infant. Section 2 Learning skills: How skills are acquired. The development of language and symbolic skill. Problem solving and thinking. Section 3 Motivation, emotions, and attitudes. Section 4 Social behavior. Section 5, Adjustment Personality underlies adjustment. Stress, maturity and adjustment. Inadequate adjustment. Section 6, Orientation to adult life Adjustment in college. Maturity and old age. Adjustment to a vocation. Section 7 Adjustment to family life: Courtship and beginning the home. Adjustment in marriage. References. Index.

Note: This book is an example of texts in which findings in various fields of psychology are drawn on and reinterpreted for the benefit of freshmen and sophomore college students who are not primarily interested in psychology. In other words, it is a "cultural" type of text designed to give the general student some idea of the scope of psychology and a fuller idea of its potential applications to himself and his life problems.

GUILFORD JOY PAUL, editor

Fields of psychology basic and applied. Second edition New York D Van Nostrand Company Inc., 1950 779 p illus. 24 cm. (The Van Nostrand series in psychology J P Guilford, editor) $5 00. 1651

Contents (abridged) Animal psychology: viewpoint and program—methods and results, by C. J. Warden. Child psychology by H. B. English. Educational psychology by H. B. English. The concepts and methods of social psychology by D. Katz. The psychology of the crowd, by D Katz. Abnormal psychology: the significance and causes of abnormal behavior—the minor abnormalities—the major abnormalities, by L. F Shaffer The nature of individual differences, by A. Anastasi. Major group differences, by A. Anastasi. Clinical psychology by R. I. Watson. Individual mental efficiency by D. H. Fryer. Vocational psychology by M. S. Viteles Professional psychology by D H. Fryer Physiological psychology by C. L. Freeman. Aesthetics, by K. Hevner. Points of view by M. Heidbreder. Index of names. Index of subject matter

Note. (1051) A book planned to give a broad view of the fields or subdivisions of contemporary psychology Under each heading the field is defined, its subject content outlined, some of the basic knowledge pertinent to it is discussed, and a selected list of literature is furnished. The book is designed primarily for college students who have completed an introductory course and need additional information either to round out their knowledge of psychology or to enable them to select a field in which to specialize. In this edition several chapters are new and several others have been revised.

GUILFORD, JOY PAUL

General psychology Second edition New York D Van Nostrand Company Inc., 1952 587 p illus. 24 cm. (The Van Nostrand series in psychology J P Guilford general editor) $5.00 1652

Contents: What psychologists do. Psychology and its methods. An organism develops. An organism has needs. Complex motives develop. Conflicts of motives. Emotional responses. Likes, interests, and attitudes. Seeing—colors. Seeing—forms, space, and movement. Hearing. The simpler senses. Observing. Conditioned responses. Other ways of learning. Memorizing. Remembering. Thinking. Reasoning. Inventing. Human abilities. Human personality. Index.

Note: (1052) A standard introductory textbook for use in college courses. It gives a scientific and fairly inclusive picture of the nature and content of contemporary psychology It is especially suited to the needs of students who take a course in psychology for its cultural values. The first edition was published in 1939. For this edition the original work was extensively reorganized and rewritten. The third chapter is new Several of the chapters that appeared in the first edition have been dropped entirely or their content has been incorporated in other chapters. Some recent literature has been added to the bibliographies, but the references are still predominantly to literature published before 1940.

HELSON, HARRY, editor

Theoretical foundations of psychology New York D Van Nostrand Company Inc., 1951 787 p illus. 24 cm. (Textbooks on psychology, J P Guilford, general editor) $7.25 1653

Contents: Methodological considerations, by M. G. Preston. Some problems of nervous function, by J. M. Oppenheimer Some neurological correlates of behavior, by E. Gellen. Development and maturation, by N. Bayley Motivation, by F W Irwin. Feeling and emotion, by J. G. Beebe-Center. Fatigue and efficiency, by S. H. Bartley Perception, by H. Helson. Learning, by E. R. Keesey. Thinking, by H. F Harlow Measurement in psychology by J. P Guilford and A. L. Comrey Intelligence, by J Loevinger. Personality, by D. W MacKinnon and A. H. Maslow Psychological theory and social psychology by D. Krech. Abnormal psychology by D. B. Klein.

Note: A textbook for advanced undergraduate and graduate college students It is organized in the form of a symposium on the fundamental ideas, concepts, theories, and problems of modern psychology. Each chapter is a detailed presentation, containing discussions of facts, techniques, methods, and experimental data, as well as references to history and schools of psychology and to the work of individual psychologists. Bibliographies appear at the ends of the chapters.

KELLER, FRED SIMMONS AND WILLIAM N SCHOENFELD

Principles of psychology a systematic text in the science of behavior New York. Appleton-Century-Crofts, Inc., 1950 431 p. illus. 22 cm. (The Century psychology series, Richard M. Elliott, editor) $4 00. 1654

Contents. Psychology and the reflex. Respondent conditioning. Operant conditioning. Extinction and reconditioning. Generalization and discrimination. Response variability and differentiation. Chaining. Secondary reinforcement. Motivation. Emotion. Social behavior. A last word. References and author index. Subject index.

Note: A college text for introductory courses, but so unusual in that it is limited to the knowledge of fundamental principles of behavior which has been gained from experimental psychology. It is unusual also in its attempt to present even introductory materials in psychology (Skinnerean) from systematic and coherent theoretical points of view Much of the space is given to descriptions of experimental techniques and to the results of noted experiments, most of which were performed on rats and other small animals. However, applications to the understanding of human behavior are discussed. The book is suited to use by college students and also by educated lay readers who wish a dependable survey of the scientific bases of psychology The list of references runs to 306 citations. The authors are members of the faculty of the Department of Psychology of Columbia University

MURPHY GARDNER

An introduction to psychology by Gardner Murphy with the assistance of Herbert Spohn. New York Harper & Brothers, 1951. 583 p. illus. (part col d) 24 cm. $4.50. 1655

Contents: The study of persons. The biological significance of individuality. Heredity. Environment. Individuality in development. The endocrine system. Some elementary motives. Emotions. Conflict. Sensing and perceiving. Seeing. Hearing. Tasting, smelling, and the general senses. Learning. Remembering. Imagining and dreaming. Thinking. Creating. Intelligence and its measurement. The pattern of abilities. The self. Assertion of the self. Defense of the self. Personality measurement. Projective methods. Social attitudes and their testing. Personality patterns. Culture and the individual: ethnological evidence. Culture and the individual: our own tradition. Oneself and others: mapping one's own education; understanding others. Glossary and index.

Note. Utilizing viewpoint, developed primarily in the study of personality, that every psychological act is the act of whole person and that the first task of psychology is to focus upon the nature of person, the author presents an introductory textbook in psychology in new terms. Motives, percepts, thoughts, attitudes are seen as activities of persons. Since biographers, novelists, and other imaginative writers are concerned with persons and their interactions, the works of such authors as Walt Whitman, Walter de la Mare, Thomas Wolfe, and Truman Capote are drawn upon to help portray clearly what persons are. Similarly photographs are used as illustrative material to help make clear the relations of individual human beings to certain situations. The book deals with the subject of individual differences more fully than do other types of introductions to psychology but emphasis is rather upon the description of the nature of person in terms of what all persons have in common. The author acknowledges his indebtedness to William Stern and Gordon W Allport in his thinking and writing and at the end of the chapters presents brief lists of suggested readings.

POSTMAN, LEO AND JAMES P EGAN

Experimental psychology an introduction. Under the editorship of Gardner Murphy New York Harper & Brothers 1949 520 p. illus. 21 cm. $4.50 1656

Contents: The scope of experimental psychology. The psychophysical methods. Cutaneous sensitivity. Audition. Smell and taste. Vision. Perception of color. Perception of form. Perception of space. Perception of movement. Experimental analysis of judgment. Reaction time and association. Measurement of learning. Conditioning. Experimental study of human learning. Retention and forgetting. Transfer of training. Emotional behavior. Behavior in social situations. Name index. Subject index.

Note: This is well organized and well illustrated textbook for students who have studied general psychology and are ready for study of experimental methods and laboratory procedures. In it is presented survey of the main empirical findings and functional relationships in selected areas of experimental psychology with special emphasis on the control, manipulation, and measurement of variables. Thirty experimental exercises are described; these are included as concrete illustrations to supplement the text. References are given at the ends of the chapters.

STAGNER, ROSS AND T F KARWOSKI

Psychology New York McGraw Hill Book Company Inc. 1952 582 p. illus. 26 cm. $5 00 1657

Contents. Orientation. Part one, Dynamics: Biological drives. Emotions. Social motives. Part two, Cognition: Sensing. Perceiving. Association. Conditioning. Problem solving. Remembering. Thinking. Intelligence. Part three, Personality: Foundations. Conflict. Maturity. Bibliography. Name index. Subject index.

Note: An introductory textbook for use in college courses. Psychology is presented as the scientific study of man's nature and behavior. The treatment is unified by emphasizing the principle of homeostasis. The authors have been exceptionally skilled in relating psychological principles and facts to background of experiences such as beginning college student is likely to possess. The following passage illustrates this point: A persisting mental set interferes with attention to objects outside its scope. The last class before vacation is inattentive to the lecture. Although written in style obviously designed to hold the interest of the beginning student, the book has substantial content. Perceptual processes, conditioning, and other difficult topics are presented without sidestepping difficult ideas and with frequent references to the experiments on which the knowledge is based. The book is well illustrated. The chapters include lists of recommended readings and there is 16-page bibliography of source material.

STONE, CALVIN PERRY, editor

Comparative psychology Third edition. New York Prentice-Hall, Inc., 1951 525 p illus. 24 cm. $8.00 1658

Contents: Introduction, by C. P. Stone. Historical background of comparative psychology by R. H. Waters. Maturation and "instinctive" functions, by C. P. Stone. Motivation of animal behavior by P. T. Young. Internal secretions and behavior, by W. C. Young. Learning: general introduction, by W. T. Heron. Primate learning, by H. F. Harlow. Theoretical interpretations of learning, by K. W. Spence. The neurology of learning, by D. G. Marquis. Discriminative behavior in animals, by K. U. Smith. Individual differences, by C. S. Hall. Problems and principles of animal sociology by N. E. Collias. Social behavior in primates, by H. W. Nissen. Abnormal behavior in animals, by R. A. Patton. Author index. Subject index.

Note. (3101) A college textbook designed for use in first courses in comparative (or animal) psychology. It was formerly edited by F. A. Moss. The pattern of the preceding edition, published in 1942, has been followed, and each of the chapters is monographic summary with references to the source literature. The authors of five of the chapters which appeared in the 1942 edition have rewritten their monographs for the present edition. All of the other chapters are the work of new contributors. All of the bibliographies have been revised.

UNDERWOOD BENTON J

Experimental psychology an introduction New York Appleton-Century-Crofts Inc. 1949 638 p. 22 cm. (The Century psychology series, edited by Richard M. Elliott) $4.50. 1659

Contents (abridged) Introduction. Discriminal processes. Motivation. Frustration. Conflict. Transfer of training. Learning. Forgetting—retention. Work. References. Author index. Glossary and subject index.

Note: The methods and techniques of experimental psychology and the relationships between stimuli and behavior which have been demonstrated by experiment are given about equal emphasis in this college textbook. The author has tried to avoid the sterility which can arise from an over emphasis on methodological sophistication (with little awareness of the sophistication necessary to evaluate the origins and quality of that content) The essential details of experimental procedures and apparatus set-ups are given but the author has excluded technical details of apparatus. Also, he has not included quantitative data derived from experiments but has stated results in generalized terms. However fair picture is given of contemporary methods. The bibliography contains 437 items and includes reference to original descriptions of many landmark experiments. The author is Associate Professor of Psychology in Northwestern University.

VALENTINE WILLARD LEE, AND DELOS D WICKENS

Experimental foundations of general psychology Third edition. New York Rinehart & Company Inc., 1949 472 p. illus. 22 cm. $4.00 1660

Contents: Magic and science. Psychology and the methods of science. The principle of control. Aptitudes. Inheritance. Maturation and growth. Intelligence. The meaning of intelligence-test scores. Physiological conditions. Drives and motives. Motives and incentives. The development of emotional behavior. Emotion in adults. Suggestibility and hypnosis. Perception. Conditioning. Learning. Remembering. Learning, thinking, imagining, dreaming. Personality. Index of authors. Index of subjects.

Note: (3074) An elementary text in which accepted psychological principles are developed by examining large variety of experimental work. These principles are then applied to practical situations in the lives of average people. The book does more than most introductory works to give the student and layman an understanding of scientific method in general and of experimental procedure in psychology. This revision of the 1941 edition presents new material on popular misconceptions about the nature of psychology, on animal behavior and on personality. Experiments have been added which are more precise or thought to be of more interest to the reader. Eighty five photographs and diagrams and large number of tables contribute to the book's usefulness. The book is intended to be used together with some standard text which would systematize the facts here presented. Professor Valentine died in 1947. Professor Wickens is on the faculty of Ohio State University. This is the first edition on which his name appears as coauthor.

PHYSIOLOGICAL PSYCHOLOGY

FORD, CLELLAN STEARNS, AND FRANK A. BEACH

Patterns of sexual behavior With a foreword by Robert Latou Dickinson M.D New York Harper & Brothers and Paul B Hoeber Inc., 1951 307 p. illus 24 cm. $4 50 1661

Contents: Foreword, by R. L. Dickinson. The task and the methods. The nature of coitus. Types of sexual stimulation. Circumstances for coitus. Attracting sex partner Sexual partnerships. Homosexual behavior. Relations between different species. Self-stimulation. Development in the individual. Feminine fertility cycles. Other physiological factors in sex behavior Human sexual behavior in perspective. Glossary Bibliography Authors' note. Index of names. Index of topics.

Note A comparative study of the sexual behavior of human beings of various present-day cultures and the sexual behavior of various lower animals. The human beings belong to 190 different societies scattered from the Arctic circle through five continents to the tip of Australia. The animals range from rats and mice to the great apes. The authors, respectively professors of anthropology and psychology at Yale University present the volume as step toward the development [illegible] sound understanding of the sexual behavior of human beings as it is affected by their evolutionary heritage and by the conditions imposed upon them by their social environment.

HEBB DONALD OLDING

The organization of behavior a neuropsychological theory New York John Wiley & Sons Inc. 1949 335 p illus 22 cm. $4.50 1662

Content The problem and the line of attack. Summation and learning in perception. Field theory and equipotentiality The first stage of perception growth of the assembly Perception of complex the phase sequence. Development of the learning capacity Higher and lower processes related to learning. Problems of motivation pain and hunger The problem of motivational drift. Emotional disturbances. The growth and decline of intelligence. Bibliography Index.

Note. In this book theory of behavior "that is based as far as possible on the physiology of the nervous system" is presented The gist of the theory is that no single nerve cell or pathway is essential to any habit of perception but that responses to stimuli are made by means of diffuse cell-assembly The author's interest in the subject developed from observations by him and others that human beings suffered little loss of intelligence as consequence of the removal of substantial amounts of brain tissue.

HULL CLARK LEONARD

A behavior system an introduction to behavior theory concerning the individual organism. New Haven Yale University Press 1952 372 p illus 25 cm. $6 00 1663

Contents: Introductory considerations Simple trial-and-error learning. Discrimination learning Behavior and the molar stimulus trace (s') Fractional antedating goal reactions. Simple behavior chains. Learning within the individual behavior link Behavior in relation to objects in space Multidirectional maze learning. The problem-solving assembly of behavior segments. Value, valuation, and behavior theory Concluding considerations. Glossary of symbols. Index of names. Index of subjects

Note. (3087b) In the author' *Principles of behavior* New York, 1943 and his *Essentials of behavior* New Haven, Yale University Press, 1951 he stated systematically the primary behavior principles. In this book he has shown "the applications of the principles to the deductions of the simpler phenomena characterizing the behavior of single organisms These works are aimed toward the systematic quantitative description of both individual and social behavior although because of Professor Hull' death, the planned volume on social behavior will not be written. In the present book the content is cast largely in the form of theorems and of critical discussions of the experimental evidence on hich the theorems are based. The book is addressed to graduate psychologists.

MORGAN, CLIFFORD THOMAS, AND ELIOT STELLAR

Physiological psychology Second edition. New York McGraw-Hill Book Company Inc. 1950 609 p illus. 24 cm. (McGraw-Hill publications in psychology Clifford T Morgan consulting editor) $6.00 1664

Contents: Introduction. The peripheral response mechanism. The central nervous system. Nerve physiology The internal environment. The chemical senses. Spatial vision. Brightness vision. Color vision. Hearing. The skin senses. Somesthetic mechanisms. The motor systems. Reflexes. Coordination. Emotion. Sleep and activity Bodily needs. Instinctive behavior. Mating behavior. Conditioning. Sensory learning. Problem solving. Brain lesions in man. Behavior disorders. Electrical activity and behavior. Bibliography and author index. Subject index.

Note: (3083d) An introductory survey that is comprehensive enough to make it useful as non specialist's reference book as well as text for undergraduate college students. The emphasis is on the physiological mechanisms of normal behavior. Considerably more information is included on animal than on human psychology. Select lists of references for further reading are appended to the individual chapters, and the "Bibliography and author index" serves as an extensive list of the related periodical literature. The work was extensively rewritten in this edition. It is intended for the same group of readers as the original edition.

REYMERT MARTIN LUTHER, editor

Feelings and emotions. The Mooseheart Symposium in cooperation with the University of Chicago Anton J Carlson, president of honor Martin L. Reymert, general chairman James G Miller cochairman. Edited by Martin L. Reymert. New York McGraw-Hill Book Company Inc., 1950 603 p. illus. 23 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting editor) $7 00 1665

Contents: Why feelings and emotions? by M. L. Reymert. I. Theory: psychophysiological approaches. Emotion as visceral action—an extension of Lange' theory by M. A. Wenger. An excitatory theory of emotion, by M. B. Arnold. The conditioning of emotions, by B. P Babkin. A biodynamic psychoanalytic approach to the problems of feeling and emotion, by J. H. Masserman. [illegible] of [illegible] by H. Piéron. Theory of emotions in Soviet [illegible] psychology by L. D London. II, Theory—psychological approaches [illegible] Emotional experience as necessary constituent in knowing, by E. J. Rank. Study of the integrative process—its importance for psychiatric theory by T M. French. The emotions regarded as functional connections, by A. E. Michotte. The phenomenological approach to the problem of feelings and emotions, by F J. J. Buytendijk. Emotions and sentiments in recent psychology by E. Klingman. A differential concept of feelings and emotions, by [illegible] Harms. III, Reports of recent experiments: The study of patterns of emotional expression, by H. E. Jones. Experimental studies of mental patients under stress, by R. R. Malmo. Animal origins of anxiety by H. S. Liddell. Psychotic behavior produced in wild Norway and Alexandrine rats apparently by fear of food poisoning by C. P Richter Connective inhibitions during thought processes by D Katz. IV Reviews integrating current experimental approaches [illegible] Central nervous mechanisms for the expression of anger in animals, by P Bard. Emotions and the electroencephalogram, by D. B. Lindsley A new frontier—neurophysiological effects of emotion on the brain, by C. W Darrow The experimental study of psychodynamic processes, by J. G. Miller Some implications of physiological individuality, by R. J. Williams. Emotion and psychosomatics: Physiological manifestations of chronic emotional states, by H W Shock. Life situations, emotions, and bodily disease, by H. G. Wolff. VI, Emotions in the study of personality dynamics and clinical psychology: Nature and the individual in the psychologist's perspective, by S. Rosenzweig. The use of clinical diagnostic techniques in research with normals, by A. Roe. [illegible] and change in the dynamic structure of personality, by J. Nuttin. Guilt feelings—their function and dysfunction, by M. Mead. Some anthropological considerations concerning guilt, by [illegible] The significance of the self-regarding attitudes and perceptions, by C. R. Rogers. Some psychological features of schizophrenia, by B. Zeigarnik [illegible] VII, Emotions in human development: Emotion from the standpoint of developmental morphology by A. Gesell. [illegible]

expression, and symbolic function in the drawing of children, by L. van der Horst. Changes in emotional responses with age, by J. E. Anderson. Meeting the emotional needs of older persons, by G. Lawton. VIII, Emotions in social behavior: Emotional dimensions of group life, by D. Cartwright. Group behavior and the concept of emotion, by F. Fearing. On the psychology of social groups as illustrated by their incidence of mental disorder, by Ø. Ødegaard. Emotion and the social crisis: a problem in phylobiology, by T. Burrow. The irrational in the international picture, by G. Murphy. IX, Emotions in applied fields: Emotions in the factory, by W. V. Bingham. The emotional stress of the foreman in present-day industry, by C. B. Frisby. The affective function of language, by R. H. Thouless. Feeling and emotion in art, by H. S. Langfeld. X, Methodology: The sample interview as a research tool to study motivation, by R. Likert. The factorial study of emotions, by Sir C. Burt. The significance of Q technique for the study of personality, by W. Stephenson. Epilogue, by A. J. Carlson. Name index. Subject index.

Note: An important volume which contains the papers originally presented at the second International Symposium on Feelings and Emotions held at Mooseheart and Chicago, Illinois, October 28–30, 1948. The contributors include scientists from several nations and from several branches of science, notably physiology, biochemistry, anthropology, and neurology as well as psychology.

PSYCHOLOGY OF PERSONALITY

ABT, LAWRENCE EDWIN, AND LEOPOLD BELLAK, editors

Projective psychology: clinical approaches to the total personality. New York, Alfred A. Knopf, 1950. 485 p. illus. 22 cm. $7.50 1666

Contents: Part I, The theoretical foundations of projective psychology: Introduction. On the problems of the concept of projection, by L. Bellak. A theory of projective psychology, by L. E. Abt. Part II, Projective tests in clinical psychology: Introduction. The content analysis of the Rorschach protocol, by R. M. Lindner. The inspection technique for the Rorschach protocol, by R. L. Munroe. Group techniques for the Rorschach test, by M. R. Harrower. The thematic apperception test in clinical use, by L. Bellak. The mosaic test, by F. Wertham. Figure drawing as a projective test, by S. Levy. The Szondi test, by S. K. Deri. The Bender visual motor Gestalt test, by A. G. Woltmann. The sentence completion test, by J. M. Sacks and S. Levy. Finger-painting as a projective technique, by A. L. Kadis. Part III, Projective tests in nonclinical areas: Introduction. Projective techniques in business and industry, by D. Brower and A. Weider. Projective techniques in action research—disguised diagnosis and measurement, by H. M. Proshansky. Index of names. Index of subjects.

Note. A treatise on the use of projective tests in clinical psychology and in certain nonclinical applications. More than four-fifths of the book is devoted to clinical applications and techniques. However, the introductory chapters are valuable in providing a theoretical rationale for projective tests. The various chapters were written particularly for this book and each one is essentially a condensed monograph on the phase of the subject named in its title. Each chapter is accompanied by literature references. The book is designed for graduate psychologists.

ADORNO, THEODOR W., AND OTHERS

The authoritarian personality, by T. W. Adorno, Else Frenkel-Brunswik, Daniel J. Levinson, R. Nevitt Sanford, in collaboration with Betty Aron, Maria Hertz Levinson and William Morrow. New York, Harper and Brothers, 1950. 990 p. illus. 24 cm. (Studies in prejudice, edited by Max Horkheimer and Samuel H. Flowerman) $7.50. 1667

Contents (abridged): Part I, The measurement of ideological trends: The contrasting ideologies of two college men—a preliminary view. The study of anti-Semitic ideology. The study of ethnocentric ideology. The measurement of implicit antidemocratic trends. Ethnocentrism in relation to intelligence and education. Part II, Personality as revealed through clinical interviews. Part III, Personality as revealed through projective material. Part IV, Qualitative studies of ideology: Prejudice in the interview material. Politics and economics in the interview material. Types and syndromes. Part V, Applications to individuals and to special groups: Genetic aspects of the authoritarian personality. Criminality and antidemocratic trends—a study of prison inmates. Psychological ill health in relation to potential fascism—a study of psychiatric clinic patients. References. Index.

Note: In this work based on an intensive, original study experts in the fields of social theory and depth psychology, content analysis, political sociology, and projective testing have developed the conception of an "authoritarian type" of personality common to most of the nations of the West. While conceding that only a small proportion of people fit this type in detail, the authors hold that the general conception is valuable for an understanding of minority group prejudice, socio-economic conservatism, and acceptance of totalitarian ideologies. The "type" is defined in terms of a pattern of characteristics isolated from group pencil-and-paper tests, projective devices and clinical interviews. It is explained largely in terms of family background (insecurity in relation to parents) and cultural norms. Insufficient attention is given to some of the economic and other factors which are also relevant. The book is designed for graduate students in the field of psychology and graduate psychologists and sociologists.

ALLPORT, GORDON WILLARD

The nature of personality: selected papers. Cambridge, Mass., Addison-Wesley Press, Inc., 1950. 220 p. illus. 24 cm. $3.00 1668

Contents: Attitudes; chapter 17 in *A handbook of social psychology* (edited by C. C. Murchison) 1935. The psychologist's frame of reference; *Psychological bulletin*, 1940, 37, 1–28. The functional autonomy of motives; *American journal of psychology*, 1937, 50, 141–156. Motivation in personality: reply to Mr. Bertocci; *Psychological review*, 1940, 47, 533–554. The ego in contemporary psychology; *Psychological review*, 1943, 50, 451–478. The psychology of participation; *Psychological review*, 1945, 53, 117–132. Geneticism versus ego-structure in theories of personality; *British journal of educational psychology*, 1946, 16, 57–68. Effect: a secondary principle of learning; *Psychological review*, 1946, 53, 335–347. Personalistic psychology as science: a reply; *Psychological review*, 1946, 53, 132–135. Scientific models and human morals; *Psychological review*, 1947, 54, 182–192. Personality: a problem for science or a problem for art? *Revista de psihologie*, 1938, vol. 1, no. 4, 1–15. Bibliography.

Note: (3124) This book is made up of photographic reproductions of articles written by the author and published in various books and periodicals as noted in the table of contents. All of the articles pertain to the theory of personality which was presented in the author's *Personality*, New York, 1937. Some of them were written explicitly in answer to critics who expressed disagreements and misgivings in print, and others represent extensions in theory or application provoked by the author's own dissatisfaction with his previously stated position.

ANDERSON, HAROLD HOMER, AND GLADYS L. ANDERSON, editors

An introduction to projective techniques & other devices for understanding the dynamics of human behavior. New York, Prentice-Hall, Inc., 1951. 720 p. illus. 22 cm. $9.00. 1669

Contents: Part I, Introduction: Human behavior and personality growth, by H. H. Anderson. Problems in the validation of projective techniques, by J. W. Macfarlane and R. D. Tuddenham. Principles of design in "projective" or misperceptive tests of personality, by R. B. Cattell. Part II, The Rorschach test: The Rorschach test: a multi-dimensional test of personality, by S. J. Beck. Validating and experimental studies with the Rorschach method, by A. I. Rabin. Part III, Varieties of tests of personality mechanisms: The four-picture test, by D. J. Van Lennep. The thematic apperception test, by R. R. Holt. The thematic apperception technique in the study of group and cultural problems, by W. E. Henry. Word association and sentence completion methods, by J. B. Rotter. The Rosenzweig picture-frustration study, by H. J. Clarke. The Bender visual motor Gestalt test, by F. Halpern. Drawing of the human figure: a method of personality investigation, by K. Machover. Spontaneous drawings of the human form in childhood schizophrenia, by J. A. Montague. Finger painting, by P. J. Napoli. Graphology, by R. Wolfson. Expressive movement and the methods of experimental depth psychology, by W. Wolff and J. A. Precker. The Szondi test, by A. I. Rabin. Other projective methods, by W. W. Morris. Part IV, General intelligence tests in personality appraisal: Interpretation of the Wechsler-Bellevue intelligence scale in personality appraisal, by M. Mayman and others. Qualitative aspects of the Stanford-Binet, by G. L. Anderson. Part V, Projective techniques in therapy: The use of puppetry as a projective method in therapy, by A. G. Woltmann.

Therapeutic use of play by J. C. Solomon. Psychodrama as a projective technique, by R. B. Haas and J. L. Moreno. The use of projective techniques in the interpretation of hostility patterns, by D. M. Levy Author index. Subject index.

Note: This book offers reasonably complete coverage of all the various projective and quasi-projective devices currently being employed in some aspect of personality appraisal. Each chapter is written by one or more experts in the use of the particular device under consideration. Theoretical, research, and applied interests are represented in varying degrees by the different contributions. Primarily for graduate students in psychology and practicing psychologists and psychiatrists.

BLAKE, ROBERT R., AND OTHERS

Perception an approach to personality By Robert R. Blake and Glenn V Ramsey in collaboration with Frank A. Beach and others. New York The Ronald Press Company 1951 442 p. illus. 23 cm. $6 00 1670

Contents: Perceptual processes as basic to an understanding of complex behavior by R. R. Blake and others. Some structural factors in perception, by C. T Morgan. Body chemistry and perception, by F A. Beach. The role of learning in perception, by E. R. Hilgard. Personality dynamics and the process of perceiving, by J. S. Bruner. Cultural and developmental factors in perception, by Wayne Dennis. The role of language in the perceptual processes, by A. Korzybski. Toward an integrated theory of personality by Urie Bronfenbrenner Unconscious processes and perception, by J G. Miller. Perceptual organization and behavior pathology by Norman Cameron. Perceptual reorganization in client-centered therapy by C. R. Rogers. The personal world through perception, by G. S. Klein. Personality theory and perception, by E. Frenkel-Brunswik. Index of names. Index of subjects.

Note The advances being made in the perceptual approach to personality at dozen different research centers are combined in organized form in this work, which is constructed around the view that the study of perceptual activity provides basic approach to an understanding of personality and interpersonal relations. The papers were delivered in substance at the 1949–1950 clinical psychology symposium held at the University of Texas. The editors have achieved better integration than is commonly true for such volumes. Stimulating reports of new research on perceptual tests indicating significant personality variables are accompanied by valuable theoretical articles, e.g., on the rapprochement of psychoanalytic and Gestalt theory in terms of perception. For graduate students of psychology and professional psychologists and psychiatrists.

BRUNER JEROME SEYMOUR, AND DAVID KRECH editors

Perception and personality a symposium. Durham N C Duke University Press, 1950 266 p. illus. 24 cm. $3 50. 1671

Contents: Some considerations concerning the relation between perception and cognition, by H. Wallach. Perception, cognition, and behavior by J Bruner and L. Postman. Where is the perceiver in perceptual theory? by G. S. Klein and H. Schlesinger. Discussion, by E. C. Tolman. Discussion, by G. Murphy Remarks on functionalism in perception, by E Brunswik. Notes toward psychological theory by D. Krech. Sensory-tonic field theory of perception, by H. Werner and S. Wapner Intolerance of ambiguity as an emotional and perceptual personality variable, by E. Frenkel-Brunswik. The nature and importance of individual differences in perception, by H. A. Witkin Autonomic discrimination without awareness: an interim report, by R. A. McCleary and R. S. Lazarus. Towards reformulation of the perception-motivation dichotomy by J. E. Hochberg and H. Gleitman. Task completion as function of organizational factors, by J W Tuney On the perception of incongruity: paradigm, by J S. Bruner and L. Postman. Personal values as determinants of perceptual fixation, by E. McGinnies and W Bowles. The effect of need for achievement on recognition of need-related words, by D. C. McClelland and A. M. Liberman. Selective sensitization in auditory perception, by J M. Vanderplas and R. R. Blake.

Note. The importance of the field of perception as the area where general experimental and clinical-social psychology meet is the main point around which this book has been constructed. The papers are written on graduate level and the book as whole is addressed to graduate students and professional psychologists. It provides an authoritative survey of current trends in research, and offers theoretical structure for further advance. The papers were published originally in *Journal of personality* Volume 18.

CATTELL, RAYMOND BERNARD

Personality, a systematic theoretical and factual study New York McGraw Hill Book Company, Inc., 1950 689 p. illus. 23 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $6.50. 1672

Contents: Describing personality through types or syndromes. Describing personality through traits. Measuring personality by the life-record method. Measuring personality by self-rating and objective tests. Inherited, constitutional influences in personality. Psychoanalysis: The intricate structure of dynamic traits. The structure of innate drives. The structures formed in the adjustment process. The self—its integration, adaptation, and adjustment. Psychosomatics. Known functional patterns. Methodological avenues to further evidence. Personality and the cultural matrix: The family: its structure and setting. The family: its relation to child personality. Group dynamics and personality. Personality and specific social organs. The abnormal and maladapted personality: Evidence from the school misfit, the delinquent, and the criminal. The neurotic. The psychotic. Life stages in personality: Conception to puberty. Adolescence, maturity old age. Principles of personality formation. Name index. Subject index.

Note: The initial definition of personality is given as that which permits prediction of what person will do in given situation. The concluding summary indicates that the principles of personality formation and operation may be incorporated in structure now born. From outset to conclusion this volume treats personality only by scientific standards such as apply in experimental psychology and integrates personality study with psychological concepts in systematic manner. The treatment of motivation leans heavily upon McDougall, and the methodology upon Thurstone's factor analysis. The emphasis is upon experiment and research rather than on clinical views of personality. The book may be used as text for a graduate or an undergraduate course in personality study and is especially intended for the student majoring in psychology or expecting to take psychology as a profession. It covers the subject of personality study in detail, considering it as the natural hub upon which all more specialized sectors of psychology turn. A bibliography accompanies each chapter.

FERGUSON LEONARD W

Personality measurement. New York McGraw Hill Book Company Inc., 1952 457 p. illus. 24 cm. (McGraw Hill publications in psychology, Clifford T Morgan, consulting editor) $6 00 1673

Contents (abridged) Fundamental concepts. Interests: an empirical approach—a rational approach. Attitudes—an empirical approach—a rational approach. Personality: unidimensional approaches—multidimensional approaches. Adjustment: diagnostic approaches—prognostic approaches. Ratings: nonanalytical approaches—analytical approaches. Projective techniques: perceptual approach—an imaginal approach. Performance: observational approaches—experimental approaches. Evaluation and summary References. Index.

Note The chief virtue of this book is its detailed analysis of the preparation of objective (questionnaire) tests for personality measurement. Its chief defect is the slight attention given to projective devices. It is designed for undergraduate majors or beginning graduate students in psychology but can be used with little effort by students and others lacking technical psychological training.

FRENCH THOMAS MORTON

The integration of behavior Volume I Basic postulates. Chicago The University of Chicago Press, 1952 272 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine, Lowell T Coggeshall Lester R. Dragstedt, Franklin C. McLean, C. Phillip Miller Thomas Park, William H. Taliaferro) $5.00. 1674

Contents (abridged) Section I, Our problem and our method. Section II, Systematic analysis of common-sense conceptions: Patterns of motivation. Analyses of the goal-seeking mechanism. Qualitative analysis of the integrative function. Dreams, hopes, wishes, and the modifying effect of an integrative field. Hypotheses and facts. Section III, Integration and disintegration of purposive behavior: Dreams and rational behavior. Case report. Interpretation. A clinical analysis of purposive behavior. Freud's theory of personality structure. Section IV Effects of frustration. Reactions to obstacles. The nature and effects of frustration. Mitigation of frustration effects. The need for activity and stimulation. Theories about the drives and about play. Experimental studies of frustration. Section Present and past: Two dream sequences compared. Changing patterns of hopes and fears. The learning process in psychoanalytic therapy. Section VI, The modifying influence of sleep. Section VII, Reconstruction of the integrative process. Appendix Life history of patient. Life chart. Bibliography. Author index. Subject index.

Note: A detailed analysis of the thoughts and acts of one person during two years of psychoanalytic treatment. The volume is the first of five projected volumes on the subject of human behavior, the objects of which are to analyze human behavior into elementary reaction patterns and then to show how these elementary reactions are combined and coordinated. In the first volume the author starts with the commonsense notions of motivation and insight, constructs picture of the integrative apparatus and how it works, then checks this picture against the clinical data of the case history. The author assumes as working hypotheses that rational behavior, neuroses, and dreams have much in common and that in irrational behavior are found fragments of the integrative mechanism which account for rational behavior.

GILBERT G M

The psychology of dictatorship based on an examination of the leaders of Nazi Germany New York The Ronald Press Company 1950. 327 p. illus. 22 cm. $4.00 1675

Contents Part I, The genesis of dictatorship. The emergent pattern of dictatorship—a psychocultural view Adolf Hitler and the Nazi movement. Part II, Selected case studies: The revolutionists. The diplomats. The militarists. The state police. Part III, Psychological implications: Clinical and psychodynamic aspects. Some social relationships. Dictatorship and adaptive social behavior References and bibliography Name index. Subject index.

Note: The author of this unique work served as prison psychologist at the Nuremberg trial of the Nazi war criminals in 1945–46, and thus was able to make thorough first-hand study of such German leaders as Goering, Hess, von Ribbentrop and Keitel. This report of his findings, based on almost daily contact with the prisoners, offers revealing picture of the character development, emotional conflicts, and social values of Hitler's chief lieutenants, and indirectly of Hitler himself. The author has also attempted to integrate some of the data of economics, sociology politics and history as they throw light upon the rise of Nazism. Although written primarily for psychologists, the subject matter and the semitechnical style of the book make it of interest to readers outside this field.

HARSH CHARLES MAXFIELD AND H. G SCHRICKEL

Personality development and assessment. *New York The Ronald Press Company* 1950 518 p. illus. 24 cm. $5.50. 1676

Contents: Part I, Nature and development of personality: Introduction. Beginnings of personality Infancy—the first two years. Infancy—sources of personal differences. Progress in early childhood. Childhood learning and acculturation. Middle childhood—six to twelve. Middle childhood—expansion of personality Adolescence. Adolescent personality Early adulthood. Adjustments to love and marriage in early adulthood. Middle and old age Part II, Personality study in theory and practice: Theories of personality The psychoanalytic movement. Cultural approach and synthesis. Assessment of personality. Questionnaires and trait organization. Interpretive assessment. Integration in personality Appendix: Theories of trait organization References. Index of names. Index of subjects.

Note A general study of personality from the standpoint of psychology organized for use as textbook. In the first part are traced the typical stages of personality development from infancy to old age. For each period there is *discussion of (1) factors influencing* personality (2) major problems and mechanisms of adjustment, (3) changes in motivation, (4) changes in ability and learned adjustment patterns, (5) significance of the phase for later development, and (6) characteristic individual variations. The second part of the book is survey of theories about personality and methods of assessing it.

By cross references in Part II the reader is reminded that theory and method must be related to the phenomena discussed in Part I. References are made throughout the text to the 23-page bibliography

HAVIGHURST, ROBERT JAMES, AND HILDA TABA

Adolescent character and personality By Robert J Havighurst and Hilda Taba [of] The Committee on Human Development [of] the University of Chicago In collaboration with Andrew W Brown [and others] New York John Wiley & Sons Inc., 1949 315 p. illus. 22 cm. $4 50. 1677

Contents: Part I, Overview of the studies, by Robert J. Havighurst and H. Taba: The problem of studying character. The community setting. Subjects and procedures. Part 2 Group studies: Community factors in relation to character formation, by R. J. Havighurst and D. Neubauer. Social class and school adjustment in relation to character reputation, by M. L. Weckler. The relation of the church to character formation, by D. Neubauer. The role of adults outside the family in character formation, by R. J. Havighurst and A. F Kluger. Moral beliefs and the ability to apply them in solving problems of conduct, by H. Taba. The relation of values to character by M. Dorr and R. J Havighurst. Personal-social adjustment and character reputation, by F A. Kingsbury Part 3, Character and personality types, by M. Dorr and others: Studies of individuals. The self-directive person. The adaptive person. The submissive person. The defiant person. The unadjusted person. Part 4 Suggestions for character education Conclusions and implications, by R. J. Havighurst and others. Part 5 Methods of studying character and personality: Methods of studying character reputation, by F A. Kingsbury and N L. Weckler. Methods of determining social status, by W L. Warner and others. Methods of studying affectional family relationships, by A. W Brown and others. Methods of studying the role of adults outside the family by R. J. Havighurst. Methods of studying moral beliefs, by H. Taba. Methods of studying values, by M. Dorr and R. J. Havighurst. Methods of studying personal-social adjustment, by F A. Kingsbury Interviewing and miscellaneous methods, by D. Neubauer and R. J. Havighurst. Comparison of these studies with the Character Education Inquiry by N. L. Weckler. Index.

Note. A report of field work carried on in "Prairie City small predominantly laboratory city typical of midwestern communities, by the Committee on Human Development and interdepartmental group representatives of the biological and social sciences at the University of Chicago. The book covers character development in youths of this city who were 16 years of age when the study was begun. The final part of the volume records some of the tests and questionnaires that were used in the studies. The book is especially intended for social workers, teachers, and other persons who work with youth.

KRECH DAVID AND GEORGE S KLEIN, editors

Theoretical models and personality theory Durham, North Carolina Duke University Press, 1952 142 p. illus. 24 cm. $2.50 1678

Contents: The problem of personality and its theory by G. S. Klein and D. Krech. Theoretical models in biology and psychology by L. von Bertalanffy. The role of neurological ideas in psychology by D. O. Hebb. The conceptual model of psychoanalysis, by D. Rapaport. Comments on theoretical models illustrated by the development of theory of conflict behavior, by N. E. Miller. The organization of personality by H. J. Eysenck. Biological intelligence, by W. C. Halstead. A theoretical model for personality studies, by A. Angyal.

Note: In this volume the nine authors have written on various aspects of the problems of developing personality theory. More specifically they have considered the advantages and disadvantages of theoretical models in developing and stating personality theory. One of the authors (Eysenck) states the problem "If, then, we would construct science of personality we must seek abstract models which will adequately represent our knowledge of existing facts and which at the same time will point forward to new facts which can verify modify or refute our theoretical models. The papers include contributions on general problems of conceptualization, special theoretical approaches, such as psychoanalysis and methodological devices relevant for theory such as factor analysis. It originally appeared as an issue of the *Journal of personality*. It is of value primarily to professional psychologists.

LINDNER, R[illegible]
Prescription [illegible] rebellion. New York Rinehart & Co Inc., 1952 305 p. 22 cm. [illegible] 1679

[illegible] Part one, Diagnosis: The lie that binds. [illegible] The eleventh commandment. Rebel's fate. [illegible] and consequences—history from [illegible] new dimension [illegible] Part two Prescription: The revolutionist [illegible] [illegible] Additional bibliography

[illegible] this work [illegible] professional clinical psychologist argues [illegible] on the part of psychologists and psychiatrists [illegible] adjustment as [illegible] sound principle of human conduct. [illegible] this concept calls on men to conform, to adopt an [illegible] and [illegible] philosophy of resignation. He believes [illegible] should be replaced by one that will [illegible] man's [illegible] conformity. He is particularly critical of some of [illegible] methods of psychoanalysis and psychiatry. Even though [illegible] to be addressing professional psychologists and psychia[illegible] the book is written so as to appeal also to lay readers. The [illegible] is forceful and intentionally provocative.

MCCLELLAND, DAVID CLARENCE
Personality New York William Sloane Associates, 1951 654 p. illus. 22 cm. $5 50 1680

Contents: Part I, Methodology: How personality is studied. The [illegible] approach to personality: the history of [illegible] belief. Obtaining the facts. Interpreting the facts. Relating the facts to one another. Part II, Trait as [illegible] personality variable. Expressive traits. Performance traits. Trait theory. Part III, Schema as [illegible] personality variable: [illegible] and [illegible] Roles and role models. Socialization. The sources of [illegible] and motives. Part IV Motive as [illegible] personality variable: Motivation: clinical approach. Motivation: experimental approach. The effects of motivation on behavior. Part [illegible] Summary and integration: Conceptions of the self. Interrelation among the basic personality variables: predicting the concrete act. References and author index. Subject index.

Note: Using mainly the motivational scheme of H. A. Murray but combining methodological resources of many kinds, this author has attempted to develop [illegible] psychology of the individual personality somewhat along the lines long advocated by Gordon Allport. The diverse discussions of theoretical and research problems are tied together by constant reference to [illegible] single case who has been studied with extraordinary thoroughness. Intended for the advanced undergraduate student of psychology it will be more useful at the graduate level.

MIKESELL WILLIAM HENRY AND GORDON HANSON
Psychology of adjustment. New York D Van Nostrand Company Inc. 1952 406 p 24 cm. (The Van Nostrand series in psychology J P Guilford, general editor) $4 50 1681

Contents. Frustration and maladjustment. Conflict. Our important wants. Indirect living. Arrested development. The aggressive mechanism. The withdrawal mechanism. The regressive mechanism. Our fantasy life. Illness as [illegible] mechanism. The problem of sex. The place of learning in educational adjustment. Social responsibility and work. Adjustment in the family. Various forms of therapy. Better choice of defense mechanisms. Building confidence. Function and goal-centered behavior. Index.

Note An introductory college text in which the individual personality is viewed as the product of adjustment to the pressures of the society in which the individual lives. Considerably more space is given to maladjustment than to adjustments that build up the normal personality; but the authors' purpose behind this emphasis appears to be to enable college students and other readers to avoid the maladjustments. N[illegible] previous introduction to psychology is required and the book is written in [illegible] style that makes it available to lay readers as well as to those who study the subject under an instructor. [illegible] reference are included.

MOWRER [illegible] ORVAL HOBART
Le[illegible] theory and personality dynam[illegible] [illegible] papers. New York The Ronald Press C[illegible] 1950 776 p. illus. 24 cm. $8.00 1682

[illegible] survey of [illegible]

Contents (abridged) Part I, Learning theory: A stimulus-response analysis of anxiety and its role as [illegible] reinforcing agent. Preparatory set (expectancy)—some methods of measurement. Fear as an intervening variable in avoidance conditioning. Extinction and behavior variability as functions of effortfulness of task. Habit strength as [illegible] function of the pattern of reinforcement. The law of effect and ego psychology. On the dual nature of learning—a reinterpretation of "conditioning" and "problem solving." An experiment exemplifying "learning" as induction and "insight" as deduction. Part II, Personality dynamics: An experimental analogue of "repression" [illegible] incidental observations on "reaction formation." Enuresis—a method for its study and treatment. Time as [illegible] determinant in integrative learning. Discipline and mental health. An experimental analogue of fear from [illegible] sense of helplessness. Learning theory and the neurotic paradox. The problem of anxiety. Biological vs. moral "frustration" in the causation of personality disturbances. Identification—a link between learning theory and psychotherapy. On the psychology of "talking birds"—a contribution to language and personality theory. Bibliography. Index of names. Index of subjects.

Note The author of this book points out that its title and organization imply [illegible] distinction between the [illegible] which is more apparent than real, since "learning theory" and "personality dynamics" both refer to the processes and principles according to which human personality or "mind" develops and functions. The distinction, however, is made and serves to demonstrate that knowledge in the field of psychological science derives from two approaches: that of the laboratory and that of the clinic. Several of the studies are mostly concerned with the psychology of fear and related states, an approach which has had comparatively little previous study although, as the author quotes Freud, anxiety is "the fundamental phenomenon and the central problem of neurosis." Most of the chapters are reprinted from various psychological and educational journals. Introductory paragraphs to integrate them and in some cases to cover additional developments since their original publication have been added. Eight of the chapters are here published for the first time.

SLOTKIN JAMES SYDNEY
Personality development. New York Harper & Brothers, 1952 401 p. illus. 22 cm. (Harper's social science series, under the editorship of F Stuart Chapin) $4.50. 1683

Contents: Part one, Inheritance: The concept of inheritance. Traits resulting from inheritance. Biological aspects of the individual. Part two Socialization: The concept of socialization. Traits acquired through socialization. Social aspects of the individual. Part three Culturalization: The concept of culturalization. Traits acquired through culturalization. Cultural aspects of the individual. Part four Individualization: The concept of individualization. Traits developed through individualization. Particular aspects of the individual. [illegible] Subject index.

Note. In this work Dr. Slotkin develops the theory that "personality is the product of the responses made by an individual with [illegible] particular heredity to the specific sequence of situations confronting him during his life history." Emphasis is placed on the influence of social and cultural factors, and the [illegible] hypotheses are illustrated with numerous quotations from anthropological works and examples from case histories. These illustrations are [illegible] examples of childhood behavior for the author believes that the personality pattern is established during the first five years of life. Of interest primarily to professional psychologists and advanced students of psychology

SYMONDS PERCIVAL MALLON
The ego and the self. New York Appleton-Century-Crofts Inc. 1951. 229 p. 21 cm. (The Century psychology series Richard M. Elliott, editor) $2.50 1684

Contents: Introduction. The structure of the ego. Functions of the ego. Development of the ego. Development of the self. Self-love, [illegible] and self-valuation. Ego strength and ego weakness. The role of the [illegible] Ego breakdown. [illegible] affects in the ego. Ego, superego, and self-ideals. Ego [illegible] states and depersonalization. The role of the ego in pathological [illegible] The place of the ego and the self in psychotherapy. Education for ego and self development. Bibliography. Index.

Note In this book the author views the ego as "the objective self as it might be observed by [illegible] behaviorist," and the self as "the subjective self as it is perceived, conceived, valued and [illegible] responded to by the individual himself." After defining the concepts of the ego and [illegible] he presents in [illegible] concise style the current knowledge of the ego and the self from the viewpoint of psychology. In most parts the text is [illegible] well organized and smoothly written digest of selected literature. Statements in the text are cross-referenced to the source articles and books. Included among the source materials are numerous [illegible]

ings of psychoanalysts as well as the writings of experimental psychologists. The book is useful as text in advanced college courses and as reading guide for graduate psychologists who wish to explore this area of psychology

YOUNG KIMBALL

Personality and problems of adjustment. Second edition. New York Appleton-Century-Crofts Inc. 1952 716 p. illus. 24 cm. $5.00. 1685

Contents (abridged) Part I, The foundations of personality: Constitutional foundations of personality Motivation and affective processes. Internal organization and interactional processes. The development of language in the individual. The rise and function of the self. Symbolic behavior and the self. Typology—facts and theories. Theories of personality Part II, Selected problems of personal adjustment. Infancy and childhood. Adolescence and problems of physical and social maturation. Pupil adjustment in school. Mental health of college students. Some problems of marriage and divorce. Psychology of modern women Psychological problems associated with occupation. The psychology of later maturity and old age. Constitutional deficiencies and adjustment. Some personality characteristics of delinquents and criminals. Neurotic and psychotic manifestations of personality Glossary Index of names. Index of subjects.

Note: (3140) This is revision, without major changes, of widely used and valued textbook utilizing sociological approach to personality While some new material has been added and some attention given to changes in the field of theoretical psychology the orientation is still toward groups, social roles, and institutional patterns as the major determinants of personality Can be used by advanced undergraduates in psychology and sociology

SOCIAL PSYCHOLOGY

ASCH SOLOMON E.

Social psychology New York Prentice-Hall, Inc. 1952 646 p. 24 cm. 1686

Contents: Part I, Introduction Doctrines of man. Part II, Organization in psychological events: Structured properties of experience and action. Psychological invariance and change. Part III, Human interaction The transformation of man in society The problem of human interaction. Social facts—the products of interaction. The expression of emotions Knowledge of persons and groups. An introduction to group theory Part IV Social needs: The ego. Social interest Rules and values. The fact of culture and the problem of relativism. Part Effects of group conditions on judgments and attitudes The doctrine of suggestion. Structural factors in the understanding of assertions. Group forces in the modification and distortion of judgments The study of small groups. Opinion and attitude—their sociological shape. Sentiments and attitudes. Some remarks on propaganda. Name index. Subject index.

Note. A re-examination and evaluation of the fundamental concepts and assumptions regarding the social nature of man, in terms of Gestalt theory Rather than providing an exhaustive or historical review of the subject, the discussion centers around those aspects of behaviorism and psychoanalysis which relate directly to social psychology The chapters dealing with the expression of emotion, the understanding of assertions, and the distortion of judgments are based largely on the author's experimental studies in these fields. The author is Professor of Psychology at Swarthmore College.

BALES ROBERT F

Interaction process analysis a method for the study of small groups. Cambridge Mass. Addison Wesley Press Inc., 1951 203 p. illus. 23 cm. $6 00. 1687

Contents: Description of the method. Theoretical framework Training observers. Appraising observer reliability Analysis and interpretation. Appendix Definitions of the categories. Bibliography Index.

Note: In this original work method of studying or analyzing the social behavior or more precisely "social interactions" of small groups of people is described explicitly By "small groups" the author means groups ranging from two persons up to about twenty and including such types as children's play groups, adolescent gangs, social clubs, teacher and pupil, and professional specialist and client. Essentially the method techniques in experimental or observational social psychology It involves the use of an instrument called the interaction recorder or of substitute forms, and the rapid classification by trained observers of the acts of the group under study The observed acts are classified under one or more of twelve categories of interactions which are carefully explained in the first chapter.

BAUER, RAYMOND A.

The new man in Soviet psychology Cambridge Harvard University Press, 1952 229 p. 22 cm. $4 00. 1688

Contents: Foreword, by J. S. Bruner. The relationship of psychology to society Two kinds of Marxism. The pattern of social change. The behavioral psychologies of the twenties. The mechanistic model of personality Consciousness comes to man. The turning point in applied psychology The decree against pedology The "new man" in Soviet psychology Modern Soviet psychology Psychology and the Soviet system. Notes. Index.

Note: This book is both study of the effects of the Soviet political system upon psychology in Russia and study of the concept of human nature as it is presented in the new Soviet psychology It is penetrating and well documented. Although of primary interest to psychologists, it is written in style that makes it available also to educated people outside this profession.

BERRIEN, FREDERICK KENNETH

Comments and cases on human relations. New York Harper & Brothers, 1951 500 p illus. 22 cm. $4.50. 1689

Contents (abridged) Part one: The setting. Words and things. Observing and thinking. Motivation and behavior Social skills and group codes. Attitude, prejudice, and rumor. Reorienting attitudes. Organization, control, and personality Society and self. Part two: Appendix. Index of names. Index of subjects.

Note. A "case method" text designed for use in undergraduate college courses and adult education groups where considerable use is made of group discussion in teaching. In the first part—which occupies about one-half of the space—the social pressures of contemporary society are described and analyzed, and successful methods of adjusting conflicts due to them are outlined. The second part of the book is devoted to narrative descriptions of 28 individual and group situations ranging from problems in the maladjustments of adolescents to complex problems in labor-management relations. These "cases" are intended for discussion by the classes and other groups making use of the book, and they constitute its unique feature. The author is Professor of Psychology at Colgate University

BETTELHEIM, BRUNO AND MORRIS JANOWITZ

Dynamics of prejudice. A psychological and sociological study of veterans. New York Harper & Brothers, 1950. 227 p. illus. 24 cm. (Studies in prejudice edited by Max Horkheimer and Samuel H. Flowerman. Sponsored by The American Jewish Committee. Social studies series publication no. IV) $3.50. 1690

Contents: Dynamic approach to intolerance. Patterns of ethnic intolerance. Stereotyping the minority Social status. The war experience. Anxiety and intolerance. Tolerance: function of control. Combating intolerance: anti-Negro attitudes. Reflections, and applications for social action. Appendix The interview Sampling procedure. Comments on the interview situation. Defining the patterns of intolerance. Reliability of analytic procedures. Schedule of interview questions. Supplementary tables. Index.

Note. One of series of volumes of which the aim is not merely to describe prejudice but to explain it in order to help in its eradication. In the view of the editors eradication of prejudice means re-education on the basis of scientific understanding. In this volume the connection between personality traits and prejudice among war veterans is examined with the purpose of discovering what there is in the psychology of the individual that renders him "prejudiced" or "unprejudiced." The group selected for intensive study was random sample of 150 male veterans of World War II who were residents of Chicago, excluding those who were officers and members of ethnic groups toward which hostility is most frequently directed, i.e., Negroes, Jews, Chinese, Japanese, Mexicans. The work is of interest to psychologists and sociologists.

BRITT STEUART HENDERSON

Social psychology of modern life. Revised edition. New York Rinehart & Company Inc. 1949 703 p. illus. 24 cm. $6.00. 1691

Contents (abridged): Part I, Social psychology and its methods: The social psychology of everyday life. The methods of social psychology Part II, Biological and social foundations of behavior: Biological bases of human behavior Social antecedents of behavior. The nature of culture. Part III, Some individual factors of social adjustment: Behavior traits, and attitudes. The social psychology of language. The psychology of irrationality Part IV Behavior in the presence of others. Our judgments of other persons. The influence of other persons. Group behavior. Sex, dominance, and prestige. The psychology of leadership and invention. Part The social psychology of institutions: The family Education—the school. Religion—the church. Fraternities and political parties. Occupational groups. Part VI, Social conflicts: Delinquency patterns. Race differences. Prejudices against minority groups. Nationalism and war. Appendices: Literature cited. List of textbooks on social psychology Other bibliographical sources. Terminology Author index. Subject index.

Note: (3109a) An inclusive work which is organized so that it may be used as textbook in college courses but is at the same time written in style that makes it available to journalists and interested laymen. The list of literature cited is more than 60 pages long. Since the text is keyed to it it constitutes useful guide to the literature on many aspects of social psychology and sociology This edition represents very extensive revision both in the text and the bibliographies.

DEWEY, RICHARD, AND W J HUMBER

The development of human behavior New York The Macmillan Company 1951 762 p. illus. 24 cm. $5.50 1692

Contents: Part I, A note on the function of theory: What is social psychology? Human nature' Interactive variables. Mechanisms of biological inheritance. Potentialities for human nature. Environment. The interactive processes. Motivation in social behavior. Personality Part II, The social psychology of age groups: Infancy and the preschool years. Childhood. Adolescence. Adulthood. Old age. Part III, Abnormal status, deviant roles, and personality: Who is normal? The social psychology of minority status. Physiological-anatomical minorities. Cultural minorities. Personal-social minorities. Those outside of the law Those outside our world. Part IV Institutions, organizations, and personality The school and personality Religion and human nature. The job, the economic system, and the individual. Riots, mobs, and panics. Part Social psychology and ethics: The good society Appendix. Index of names. Index of subjects.

Note. An introductory but substantial presentation of the principles of social psychology and of the behavior of groups in society interpreted in terms of social psychology Much emphasis is placed on the importance of the scientific attitude and on the information so far accumulated by the techniques of scientific investigations. In the first part basic information on such pertinent topics as genetics, the structure of the nervous system, the influence of the social environment on human nature and human motivation is presented. In the remainder of the book the phenomena of behavior evidenced within groups and in interactions among groups are analytically discussed. The text is well documented with literature references, and the names of the authors of cited papers are brought out in the index of names. The book is suited to use as text in college courses offered to students who have completed basic courses in psychology It has value also as reference and orientation book for teachers, journalists, etc.

DOOB LEONARD WILLIAM

Social psychology an analysis of human behavior New York Henry Holt and Company 1952 583 p. 24 cm. $5 00 1693

Contents: Part one, The individual in society the social setting The bases of behavior Socialization and learning. Actions and reactions. Language. The methods of research. Part two, The behavior of groups: Ethnic groups. The individual and his group. Organized groups. Group laws. Leaders. Group prejudice Delinquency and crime. Part three, Social change: Vogues. Communication and the mass media. Education and re-education. Social conflicts. The diffusion of change. The problems and scope of social psychology Index.

Note. Mainly this book is survey of the problems with which social psychology must deal. There is considerable emphasis on unsolved problems. So many quotations from significant surveys, reports, and other basic materials of social psychology are included that the book can be used as an introductory guide to such literature. The author has made good use of important research studies of World War II and the years immediately after. Each of the three main parts contains selected bibliography The book is useful chiefly as an introductory text at the college level for students with serious interests in social psychology and sociology

FARIS, ROBERT E. LEE

Social psychology New York The Ronald Press Company, 1952 420 p. 23 cm. $5.00. 1694

Contents: Human nature and the social order. Inadequacy of biological motivation. Motivation—the individual aspect—social sources. The emergence of consciousness. The concept of unconscious mind. The emergence of self-consciousness in social interaction. Social determination of learning, perception, and memory Social determination of attitudes and beliefs. The social factor in ability The character of primary interaction. The differentiation of persons by variations of roles. The neurotic role. Personality disorganization. Trends and problems in social psychology Index of names. Index of subjects.

Note. A well-written introduction in which the main emphasis is on the significant results of the outstanding scientific investigations in recent decades of the phenomena of social behavior and of personality development in human society No particular school of psychological thought is favored; however the author is critical of the Freudian school. Frequent quotations from the writings of other authors are incorporated in the text, and there are numerous footnote citations of other writings. Although primarily text for college courses, the book is so written that it can be read with profit by mature lay readers not enrolled in formal courses.

LAPIERE, RICHARD TRACY, AND PAUL R. FARNSWORTH

Social psychology Third edition. New York McGraw Hill Book Company, Inc., 1949 626 p. 24 cm. $6 00 1695

Contents: Part I, The nature of the individual and of society: Social psychology The psychobiological bases of human behavior. The sociocultural bases of human behavior. Part II, The process of socialization: Socialization. Types of human behavior. Overt symbolic behavior—gesture—speech. Overt nonsymbolic behavior. Overt nonsymbolic behavior—symbolic sources. The covert behavior. Part III, The human personality: Personality Personality stereotypes. Personality sources. Personality deviations. Personality and social controls. Part IV Personality and social adjustment: The dynamics of social adjustment. Social disorganization and maladjustment in modern life. Social change and maladjustment. Socially atypical patterns of adjustment. Psychologically abnormal modes of adjustment. Part Social interaction: The interactional situation. Cultural situations. Interpersonal situations. Publics. Abnormal situations. Appendix. Bibliography and author index. Subject index.

Note: (3117) A standard introductory textbook for use in college courses. In the present edition three new chapters have been added and most parts that have been carried over from the second edition have been extensively revised. The first-named author is Professor of Sociology and the second is Professor of Psychology in Stanford University.

LEMERT EDWIN MCCARTHY

Social pathology a systematic approach to the theory of sociopathic behavior New York McGraw Hill Book Company Inc., 1951 459 p illus. 24 cm. (McGraw Hill series in sociology and anthropology Richard T LaPiere, consulting editor) $5 00. 1696

Contents: Part one, Theory: Introduction. Deviation and differentiation. The societal reaction. Sociopathic individuation. Part two, Deviation and deviants: Blindness and the blind. Speech defects and the speech defective. Radicalism and radicals. Prostitutes and the prostitute. Crime and the criminal. Drunkenness and the chronic alcoholic. Mental disorders. Appendix: Suggested outline to be followed in studying and writing the life history of deviant. Glossary. Index.

Note: In this book an original theoretical structure for the study of sociopathic phenomena is presented and its applications to specific sociopathological types, such as radicals and alcoholics, are discussed. Since the author's main purpose is to advance theory which will facilitate the integration of the study of social deviants with sociology rather than with the abnormal psychology textbooks, the book is potentially of greater interest to sociologists than to psychologists. However it presents point of view about which the specialist in abnormal psychology should be informed. The level of treatment implies previous study of psychology and sociology on the part of the reader

LEWIN, KURT

Field theory in social science selected theoretical papers. Edited by Dorwin Cartwright. A publication of the Research Center for Group Dynamics, University of Michigan. New York Harper & Brothers, 1951 346 p. illus. 22 cm. $5 00 1697

Contents: Formalization and progress in psychology. Constructs in field theory. Defining the "field at a given time." Field theory and learning. Regression, retrogression, and development. Field theory and experiment in social psychology. Problems of research in social psychology. Psychological ecology. Frontiers in group dynamics. Behavior and development as a function of the total situation. Appendix: Analysis of the concepts whole, differentiation, and unity. Index.

Note: All of the papers in this volume were previously published elsewhere. Though written and published separately, they now form a reasonably coherent whole. The editor has modified them slightly by omitting duplicate passages and occasionally writing transitional paragraphs. The book is a basic work both in social psychology and in sociology.

LINDESMITH, ALFRED RAY, AND ANSELM L. STRAUSS

Social psychology New York The Dryden Press Inc. 1949 549 p. illus. 22 cm. (The Dryden Press sociology publications, general editor Edwin H. Sutherland) $5.00 1698

Contents: Part I, Language behavior: Sub-human behavior and its limitations. Groups, language, and symbolic environments. Complex mental functions. Man without symbols. Part II, Socialization: The child's acquisition of language. Roles, Roles and the self. Thinking as adaptive behavior. The social bases of thought. Part III, Personality: Personal organization. Symbolic adaptations. Conflict and disorganization. Deviant behavior. Part IV, Race and sex: Race relations. Sexual behavior. Part V, Collective behavior: Social change. Mass behavior and shifting perspectives. Biological and social factors in behavior. Index.

Note: The importance of language symbols and of the influence of social groups in the development and determination of individual behavior are the main themes in this refreshing text. The authors emphasize the importance of data derived from investigations and experiments and they imply that the time for inclusive theories in social psychology has not yet arrived. Although most of the text is based on other works in which the results of investigations are reported, the book is not a mere literature digest. The authors, who are members of the faculty of Indiana University, have performed valuable integration and interpretation. Literature references and annotated reading lists are included.

MILLER, JAMES GRIER editor

Experiments in social process a symposium on social psychology New York Mc Graw-Hill Book Company Inc. 1950. 205 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $3.50. 1699

Contents: Scientific methodology in human relations, by D. G. Marquis. The strategy of sociopsychological research, by R. Lippitt. Laboratory experiments—the role of group belongingness, by L. Festinger. Survey research—psychological economics, by D. Cartwright. Survey techniques in the evaluation of morale, by D. Katz. Field experiments—changing group productivity, by J. R. P French, Jr. A comparative study of national characteristics, by D. V. McGranahan and I. Wayne. The implications of learning theory for social psychology, by J. J. Gibson. Social psychology and the atomic bomb—a round-table discussion, by members of the symposium and L. Szilard. Index.

Note: Papers presented at a symposium held at the University of Chicago in November, 1947 have been collected in this volume together with two papers first published elsewhere. Except for the final chapter each of the papers is a description of a recent study in the field of social psychology or a discussion of methodology. The final chapter is a transcript of discussion rather than a formal paper. The editor is Chairman of the Department of Psychology of the University of Chicago.

NEWCOMB, THEODORE MEAD

Social psychology by Theodore M. Newcomb with the assistance of W W Charters, jr New York The Dryden Press 1950. 690 p. illus. 24 cm. (The Dryden Press publications in interpersonal relations, general editor Theodore M Newcomb) $5.50. 1700

Contents: I, The nature and scope of social influence: Asking and answering questions about social influence. Uniformities and variations in social behavior. II, Motives and attitudes. Motivation in social behavior. Acquiring motives and attitudes. The measurement of attitudes. Change and persistence of attitudes. III, Social norms and roles. Social norms and common attitudes. Role behavior and the self. IV, Individual personality: Processes of personality development. The patterning of self-other attitudes. Culture and personality. Individual adaptation to role prescriptions. V, Group membership: Effects upon individuals of membership in groups. Multiple group membership. Group conflict. Group solidarity. References. Index of names. Index of subjects.

Note: A college textbook written from a new standpoint by a professor who has made use of the text in preliminary form in his teaching at the University of Michigan. Focussed in the reciprocal influences among human beings as they interact with one another. The author shows that individual persons come to act, perceive, think, and feel in certain preferred ways in relation to their environments. The total organization of a person's predispositions to relate himself to his environment is held to represent his personality. Throughout the book the author emphasizes the human part of the individual's environment, stating that many of the most important conditions which account for individual behavior are group conditions.

ROHRER, JOHN H., AND MUZAFER SHERIF, editors

Social psychology at the crossroads, the University of Oklahoma lectures in social psychology New York Harper & Brothers, 1951 437 p. 22 cm. $4 00. 1701

Contents: Part one, Social psychology: integrating individual and social approaches. Social psychological theory: integrating individual and social approaches, by T. M. Newcomb. Part two, Biological factors and human behavior: Genetic variability and human behavior, by P. R. David and L. H. Snyder. The "levels" concept in the study of social organization in animals, by T. C. Schneirla. Levels of integration along the phylogenetic scale: learning aspect, by H. F. Harlow. Part three, Interaction in the cultural setting: On cultural and psychological reality, by M. J. Herskovits. Cultural factors in the structuralization of perception, by A. I. Hallowell. The psychological habitat of Raymond Birch, by R. C. Barker and H. F. Wright. Part four, Basic psychological functions: The place of phenomenological analysis in social psychological theory, by R. B. MacLeod. Toward a general theory of cognition, by L. Postman. Scales of judgment and their implications for social psychology, by J. Volkmann. Part five, Group structure and individual roles: Small groups and large organizations, by W. F. Whyte. Work and the self, by E. C. Hughes. Behavior and organization: industrial studies, by C. M. Arensberg. Part six, Human behavior in the social psychological frame of reference: Conceptions of roles and ego in contemporary psychology, by S. S. Sargent. Psychological problems of multiple group membership, by E. Hartley. A preliminary experimental study of inter-group relations, by M. Sherif. Name index. Subject index.

Note: This book contains a series of papers written by invitation and delivered at a conference held in April, 1950. Together the papers give not only an account of the present status of social psychology but indicate the direction it must take if it is to make a significant contribution to the understanding and improvement of human relations. A principal theme is that a unified scheme of social psychology must consider and integrate biological and psychological factors stemming from the individual with the factors from his sociocultural surroundings. Areas where the need for research is crucial are indicated.

SARGENT, STEPHEN STANFELD

Social psychology an integrative interpretation. New York The Ronald Press Company 1950. 519 p. illus. 21 cm. $4.50. 1702

Contents: Part I, Socialization of the individual: Biological and social backgrounds. Culture and personality Social influences on personality Social learning—processes and products. Part II, The dynamics of social behavior Motives. Frustration and mechanisms. Ego-development and ego-involvement. Part III, The patterning of social behavior Communicating and symbolizing. Social interaction and social groups. Social roles. Leadership. The person in social situations. Part IV Understanding social phenomena: Public opinion. Propaganda. Mass behavior. Social change and social movements. Group differences and prejudice. Applications in the area of social issues. Social psychology today and tomorrow Name index. Subject index.

Note. An introductory text for use in college courses developed from course in social psychology given at Barnard College, course on which the author (a psychologist) and sociologist, Willard W Waller collaborated. In presenting the relationships among individual and group behavior the author has integrated techniques and studies from the fields of psychology sociology, anthropology and psychiatry The extensive bibliographical material includes both citations of source articles and annotated lists of supplementary readings.

SOCIAL SCIENCE RESEARCH COUNCIL

The American soldier Volume I, Adjustment during Army life. By Samuel A. Stouffer Edward A. Suchman, Leland C. DeVinney Shirley A. Star Robin M. Williams, jr Princeton New Jersey Princeton University Press 1949 599 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. I) $7.50 1703

Contents. How these volumes came to be produced. The old Army and the new How personal adjustment varied in the Army—by longitudinary considerations—by background characteristics—by type of experience in the Army Social mobility in the Army Job assignment and job satisfaction. Attitudes toward leadership and social control. The orientation of soldiers toward the war Negro soldiers.

—— Volume II, Combat and its aftermath. By Samuel A. Stouffer Arthur A. Lumsdaine, Marion Harper Lumsdaine, Robin M Williams jr M Brewster Smith, Irving L. Janis, Shirley A. Star Leonard S. Cottrell, jr Princeton, New Jersey Princeton University Press, 1949 675 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. II) $7 50 1704

Contents Attitudes before combat and behavior in combat. General characteristics of ground combat. Combat motivations among ground troops. Problems related to the control of fear in combat. The combat replacement. Attitudes of ground combat troops toward rear echelons and the home front. Morale attitudes of combat flying personnel in the Air Corps Objective factors related to morale attitudes in the aerial combat situation Psychoneurotic symptoms in the Army Problems of rotation and reconversion. The point system for redeployment and discharge. The aftermath of hostilities. The soldier becomes veteran. Appendix. Consolidated index for volumes and II.

—— Experiments on mass communication. By Carl I. Hovland, Arthur A. Lumsdaine, Fred D Sheffield. Princeton, New Jersey Princeton University Press, 1949 345 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. III) $5 00. 1705

Contents Introduction. Part I, Film evaluation studies: The orientation film, "The battle of Britain. General implications derived from the orientation film experiments. The audience's evaluation of films. Experimental comparison of alternative presentations. Effects of films on men of different intellectual ability Part II, Studies employing controlled variation Short time and long-time effects of an orientation film. The effects of presenting "one side" versus "both sides" in changing opinions on controversial subject. The effect of an audience-participation technique in film strip presentation. Summary and evaluation. Appendices: Measurement problems encountered. Index.

—— *Measurement and prediction.* By Samuel A. Stouffer Louis Guttman, Edward A. Suchman, Paul F Lazarsfeld, Shirley A. Star John A. Clausen. Princeton, New Jersey Princeton University Press, 1950. 756 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. IV) $10.00. 1706

Contents: An overview of the contributions to scaling and scale theory The problem of attitude and opinion measurement. The basis for scalogram analysis. The scalogram board technique for scale analysis. The utility of scalogram analysis. Relation of scalogram analysis to other techniques. The intensity component in attitude and opinion research. Problems of reliability The principal components of scale analysis. The logical and mathematical foundation of latent structure analysis. The interpretation and computation of some latent structures. Two case studies in prediction—introductory comments. The screening of psychoneurotics in the Army—technical development of tests. The screening of psychoneurotics—comparison of psychiatric diagnoses and test scores at all induction stations. Studies of the postwar plans of soldiers—a problem in prediction. Some notes on sampling and questionnaire administration by the Research Branch. Index.

Note These volumes present the techniques and the findings of comprehensive, detailed study of the attitudes and adjustments of American soldiers to army life, training, and combat duty They are the work of group of sociologists and psychologists, and are based on data assembled between 1941 and 1945 by the Research Branch, Information and Education Division of the United States Army. Volumes one and two are largely reports of the findings of the Council regarding soldiers' attitudes. Volume three contains an evaluation of various training programs used by the Army including educational films. Volume four is devoted to descriptions and analyses of the techniques used by the Research Branch in collecting the data. The series is monumental contribution to the literature of social psychology It is of value not only to psychologists who are concerned with military training and morale but also to social and applied psychologists in general.

SOCIETY FOR THE PSYCHOLOGICAL STUDY OF SOCIAL ISSUES

Readings in social psychology Revised edition. Prepared for the Committee on the Teaching of Social Psychology of the Society for the Psychological Study of Social Issues. Editorial committee Guy E. Swanson [and others] New York Henry Holt and Company 1952 680 p. illus. 24 cm. $5.35 1707

Contents: Part I, Approaches to the study of interaction: forms of interpersonal influence. Signs, symbols, and language in interpersonal communication. Transmitting influence through interpersonal communications. Part II, The social patterning of interaction—collective problem-solving: Collective problem-solving in small groups. Public opinion as collective problem-solving. Behavior in the absence of collective solutions. Part III, Recurring interaction patterns: Social norms. Social roles. Stratified role structures. Leader-follower roles. Part IV Some effects of interaction patterns on individual participants: Social influences on individual psychological processes. Attitudes and judgments as influenced by reference groups. Social influences on persistence and change of attitudes. The continuing socialization of the individual. Part Some social psychological approaches to public issues. Index.

Note: A carefully selected anthology of papers and selections from books and papers illustrative of the "empirical foundations" upon which social psychology rests. It is used in conjunction with other large courses in social psychology and is an excellent introduction to methods of investigation in the field. About half of the material in the present edition was added since the first edition was published in 1947

SYMONDS, PERCIVAL MALLON

Dynamic psychology New York Appleton-Century-Crofts, Inc. 1949 413 p. 24 cm.

(The Century psychology series, Richard M Elliott, editor) $4.25 1708

Contents: Introduction. Drive. Frustration. Aggression. Punishment. Anxiety Defenses against anxiety Fixation. Regression. Repression and the unconscious. Introjection and the superego. Projection. Identification. Conflict. *Guilt and self-punishment.* Sublimation. Compensation. Rationalization. Love and self-love. The ego and the self. Normality Index.

Note: (1477*) An undergraduate textbook based on the author's *The dynamics of human adjustment*, New York, 1946. Several chapters which appeared in the more advanced work have been eliminated entirely and advanced material has been largely removed from those chapters which have been taken over. In addition, a new chapter entitled "The ego and the self" has been added. Questions for discussion and short lists of recommended reading also have been added.

THOMAS, WILLIAM ISAAC

Social behavior and personality Contributions of W I. Thomas to theory and social research. Edited by Edmund H. Volkart. New York Social Science Research Council, 1951 338 p. illus. 24 cm. $3.00 1709

Contents: Introduction: Social behavior and the defined situation, by Edmund H. Volkart. Part I, Social science and social behavior: The need for a social science. Methodological note. The behavior pattern and the situation. The methodology of behavior study The role of methodology in the development of science. Research and the social process. The comparative study of cultures. Part II, Social behavior and personal dynamics: The four wishes. A theory of social personality Personality and the content of the family The configurations of personality Part III, Social behavior and cultural dynamics: The psychology of culture change. The primary group and the definition of the situation. Social disorganization and reconstruction. The individualization of behavior. Reconciliation of the heritages. Part IV, Personality and culture: Outline of a program for the study of personality and culture. Bibliography of W I. Thomas, compiled by A. Paul Hare. Biographical note. Index of names. Index of subjects.

Note: A posthumous volume reviewing and integrating the major contributions to sociological and social-psychological theory and method of W I. Thomas (1863–1947) and making available a selection of his out-of-print and unpublished materials. Thomas was a former president of the American Sociological Society Two features of his position in social science are summarized by the editor as follows: "The goal of social science is to obtain verifiable generalizations about human behavior. The end is to make available the kind of knowledge necessary and useful for the rational control of behavior.

CHILD STUDY

AMERICAN ASSOCIATION FOR GIFTED CHILDREN

The gifted child. Edited by Paul Witty Boston D C. Heath and Company 1951 338 p. illus. 23 cm. $4.00. 1710

Contents: Progress in the education of the gifted, by P Witty Identifying gifted children, by W H. Bristow and others. The Stanford studies of the gifted, by L. M. Terman and M. H. Oden. The contributions of Leta S. Hollingworth to the study of gifted children, by M. C. Pritchard. Some observations of highly gifted children, by M. Zorbaugh and others. The teacher of gifted children, by W C. Ryan and others. Mental hygiene of gifted children, by R. Strang. Community recognition of the gifted, by M. Hobbs. Nature and extent of educational provisions for the gifted pupil, by P Witty A high school of science for gifted students, by M. Meister. Search for talent in science, by W Davis. Experiences with children talented in the arts, by A. Lally and L. La Brant. Administrative problems in educating gifted children, by L. Krueger and others. The education of gifted children and youth—summary and recommendations, by P Witty Annotated bibliography on gifted children, by E. H. Martens. Index.

Note: A book designed to inform non-specialists such as parents, beginning teachers, and members of school boards about current *thought and problems in connection with specially gifted children.* The various chapters were written for the book by recognized leaders in this field of education. The book is a nontechnical or semitechnical presentation rather than a popularization. It includes some statistical data and numerous literature references. The bibliography is comprehensive.

AMES LOUISE BATES, AND OTHERS

Child Rorschach responses developmental *trends from two to ten years.* By Louise Bates Ames Janet Learned, Ruth W Métraux and Richard N Walker New York Paul B Hoeber Inc., 1952 310 p illus. 24 cm. $7.50 1711

Contents. Part one: Review of literature. Subjects and methodology Scoring. Statistical analysis. Area. Determinants. Content. Additional test factors. Part two Two years. Two and a half years. Three years. Three and a half years. Four years. Four and a half years. Five years. Five and a half years. Six years. Seven years. Eight years. Nine years. Ten years. Normal adult record. Clinical considerations. Summary Bibliography Index.

Note: In this work findings based upon studies of 650 children ranging in age from two to ten years of age show the changes which occur in normal responses at each age level to the Rorschach test. It is shown also that many types of Rorschach responses which suggest disturbances in the adult may be quite characteristic in the child. The *system of scoring used by the authors in evaluating the* Rorschach tests is given in some detail. Methods of administering the tests to young children are mentioned but the reader who is looking for specific instructions in testing procedure is referred to a standard text on the subject. This book is not an introductory manual on Rorschach procedure; familiarity on the part of the reader with one or more of the scoring systems is assumed. The authors are members of the staff of the Gesell Institute of Child Development.

BETTELHEIM BRUNO

Love is not enough, the treatment of emotionally disturbed children. Glencoe, Illinois The Free Press, 1950 386 p. illus. 22 cm. $4.50. 1712

Contents: The children. First encounter. Events in sequence. *From dreams to waking. The in-between times. The challenge of* learning. Food, the great socializer. Rest and play Alone and in the group. The world outside. In the bathroom. Bedtime. Publications on the school. Index.

Note. An informal account of the work and methods of the Sonia Shankman Orthogenic School at the University of Chicago. Although it deals with child psychiatry the style is nontechnical and the organization of the material is informal. The book can be used by anyone interested in the problems presented by delinquent, schizophrenic, or neurotic children. On the other hand, its content is substantial enough to make it valuable to child psychiatrists and others who work professionally with emotionally disturbed children.

ENGLISH HORACE BIDWELL

Child psychology New York Henry Holt and Company 1951 561 p. illus. 24 cm. $4 75 1713

Contents: Part I, Introduction. Part II, Discipline and authority Part III, Emotion. Part IV Motivation. Part v, The importance of physical development. Part VI, The child's intellectual life. Part VII, Social development. Part VIII, The individual child. Appendices. Bibliography and index of authors. Index of subjects.

Note. An introductory text addressed to college students but useful also to educated parents and others with mature interests in the psychology of children. It is written in a lucid direct style, and although introductory to this branch of psychology it includes a fair amount of professional grade material. There is a bibliography of over 300 references. The author is a member of the faculty of Ohio State University

ERIKSON ERIK HOMBURGER

Childhood and society New York W W Norton & Company Inc. 1950 397 p. illus. 22 cm. $5.00 1714

Contents: Part one, Childhood and the modalities of social life: Relevance and relativity in the case history The theory of infantile sexuality Part two, Childhood in two American Indian tribes: Hunters across the prairie. Fishermen along a salmon river. Part three,

The growth of the ego. Early ego failures—Jean. Toys and reasons. Eight stages of man. Part four. Youth and the evolution of identity: Reflections on the American identity. The legend of Hitler's childhood. The legend of Maxim Gorky's youth. Conclusion—The fear of anxiety. Appendix. Index.

Note. A collection of studies in which the social significance of childhood is interpreted in the terms of psychoanalysis. They range from detailed discussions of cases from the author's practice—in some of which the role of society is not too apparent—to anthropological studies of child training in certain American Indian tribes. The book is of about equal interest to students of cultural anthropology and to psychoanalysts interested in the psychiatric difficulties of children.

FAEGRE, MARION ELLISON LYON

Your child from 6 to 12. Washington, D. C. Government Printing Office, 1949. 141 p. illus. 23 cm. (United States. Federal Security Agency. Social Security Administration. Children's Bureau. Publication number 324) Paper $0.20. 1715

Contents. What 6- to 12-year olds are like. How family life is different today. What successful parenthood involves. How families influence their children's social adjustment. What play means in the life of a child. Home life as preparation for independent living. Helping children to make the most of their mental ability. When home and school get together. Everyday problems. Fears, worries, frustrations, and their outlets. Some special family concerns. Pursuits and hobbies. Children and money. Developing wholesome sex attitudes. Growth in middle childhood. Keeping your child healthy. The sick child. The community's services for your children.

Note. A useful, non-technical guide for parents.

FIEDLER, MIRIAM FORSTER

Deaf children in a hearing world: their education and adjustment. With a foreword by Mary Fisher Langmuir. New York. The Ronald Press Company. 1952. 320 p. illus. 21 cm. $5.00 1716

Contents (abridged). Part I, Education of deaf and hard-of-hearing children. The Vassar staff asks some questions. The research program. Part II, The children. Introduction: how we studied children. Part III, The parents discuss their problems. Social relations with other children. What problems arise with siblings? Reactions of parents to their deaf children. Helping the child understand his handicap. Who is a handicapped child? Parents as teachers of their children. What does a child's hearing loss mean? Should a child wear a hearing aid? Part IV, Reports of mothers and teachers on the children's experiences. Part V, Conclusion. Summary remarks. Appendix. Sources of help and information for parents of deaf and hard-of-hearing children. Index of names. Index of subjects.

Note. A discussion of the problem whether it is advisable to include deaf and hard-of-hearing children in schools and educational programs planned for boys and girls of normal hearing. It is a report of research conducted by the Vassar Summer Institute for Family and Community Living as part of a five-year program for the study of children with hearing difficulties. The author tells how a group of deaf children were received into groups with no hearing handicaps. The first of the five parts of the book explains the background of the study, what its definite objects were, and how and by whom it was conducted. Part II tells about the children individually; charts are included to show the hearing ability of each child. Seven mothers of the children were in residence at the Institute while the investigation was in progress, and Part III records some of the discussions between parents and teachers of these children. The fourth and fifth parts give the reports of the mothers and teachers and the conclusion of the study.

GARRISON, KARL CLAUDIUS

Growth and development. With a chapter by Florene M. Young and a chapter by Florence Heisler. New York. Longmans, Green and Co., 1952. 559 p. illus. 22 cm. $5.00 1717

Contents: Part I, Introduction. Studying child growth and development. Biological inheritance and prenatal development. The period of infancy. Some fundamental principles of growth. Part II, Aspects of growth: Physical growth and health. The development of motor skills. Emotional growth and control. Intelligence—growth and measurement. Language growth and development, by Florene M. Young. Growth in knowledge and understanding. Growth in creative expression. The development of social behavior and attitudes, by Florence Heisler. Part III, Personality development: Change of interests with age. Personality development—its nature and evaluation. Personality development—conflicts and adjustment. Mental hygiene of childhood. From childhood to adolescence. From adolescence to maturity. Appendix. Author index. Subject index.

Note. In this book on the physical growth and mental development of children from infancy through adolescence fundamental knowledge is adequately presented and there is emphasis on those aspects of the subject which are of special concern to teachers. For example, stated reasons for adolescents leaving school before graduation are discussed. The book is based on a variety of research reports and other professional publications and these are cited in footnote references. The author is Professor of Education in the University of Georgia.

GARRISON, KARL CLAUDIUS

The psychology of exceptional children. Revised edition. New York. The Ronald Press Company. 1950. 517 p. illus. 21 cm. $4.50 1718

Contents: Part I, Introduction. Our children—their needs and abilities. Fundamental principles of development. Part II, Studying the individual child: The child's physical development. The child's capacities, interests, and achievements. The child's personality. Part III, Mentally retarded children: Characteristics of the mentally retarded. Special disabilities. Curricular provisions for the mentally retarded. Social and personal development of the mentally handicapped. Part IV, Gifted children: Characteristics of the mentally gifted. Psychology of special abilities. School provisions for the gifted. Personal and social development of the gifted. Part V, The physically handicapped child. The problem of defective vision. Children who are hard of hearing. The speech defective child. The crippled child. Children of lowered vitality. Part VI, Emotionally and socially maladjusted children: Children with emotional or adjustive difficulties. Socially maladjusted and delinquent children. Nervous and psychosomatic children. The hygiene of childhood. Appendix. Author index. Subject index.

Note. (3142) A standard work which is used as a text in college courses and also as a guide for teachers, social workers, and parents' groups. Its scope is children whose physical and emotional make-up set them apart in one way or another from the average child. Literature references are included in the form of footnotes and also as selected lists at the ends of chapters. In this revision the purpose and organization of the book are the same as in the first edition, but the incorporation of new case studies and the results of investigations conducted by the author and other workers in the field accounts for more than 100 additional pages.

GESELL, ARNOLD

Infant development: the embryology of early human behavior. New York. Harper & Brothers, 1952. 108 p. illus. 24 cm. $3.50 1719

Contents. Introduction—the concept of growth. Charting the normal growth cycle. The embryology of human behavior. The human action system in evolution. Eyes, hands, and brain. The total action system. The growth process. Individual differences and developmental [illegible]. The diagnosis and supervision of development. A developmental philosophy. Appendices: General references. Collateral readings. Correlated edited films. Illustrations of principles and methods of developmental diagnosis at 28 weeks level of maturity. Index.

Note. The theme of this short book is "that there is a profound continuity in the prenatal and postnatal phases of human growth." It is in effect an outline, brought down to date, of the findings of the extensive researches of Dr. Gesell and his colleagues at the former Clinic of Child Development of Yale University and the currently active Gesell Institute of Child Development. The human child is shown to be a continuously developing organism in [illegible] and precise cycle of physical, mental, and functional growth. A series of outstanding photographs of infant behavior—taken from the film "The embryology of development"—which show distinct points in the growth cycle are included. The book can be read as preparation for viewing the film or independently as an orientation toward the current knowledge of the field.

HORROCKS, JOHN E.

The psychology of adolescence. Boston. Houghton Mifflin Company Inc., 1951. 614

p. illus. 23 cm. (Leonard Carmichael, consulting editor) $4.50. 1720

Contents: Part one, The adolescent period: The nature of adolescence. Part two, The adolescent and his relation to others: The adolescent and his family. Social adjustment. Friendships and personal acceptability. Adolescent groups and group membership. Heterosexual relations. Part three, Development and growth: Intellectual development. Physical growth. Physiological and anatomical development. Strength and motor abilities. Part four, Adolescent activities and interests: Nature and importance of interests and activities. Interests and the media of communication. Vocational interests and aptitudes. Attitudes and ideals. Part five, An overview of behavior: The bases and outcomes of adolescent behavior. The case of Mary Mackey—an example of adolescent behavior. Index of authors. Index of subjects.

Note: A quite complete overview of the psychology of adolescence, strongest perhaps in its discussion of development and growth, and less strong in its discussion of vocational interests and aptitudes. It is well written, readable, well documented, and the selection of source materials has been critically done.

HURLOCK, ELIZABETH BERGNER

Adolescent development. New York McGraw-Hill Book Company, Inc., 1949 566 p. illus. 23 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting editor) $5.50. 1721

Contents: Adolescence the transition age. Puberty changes. Body changes. Emotions in adolescence. Social behavior. Friends and leaders. Social interests. Personal interests. Recreational interests. Religious beliefs and attitudes. Moral concepts and behavior. Sex interests and behavior. Personality. Meaning of maturity. Bibliography. Index.

Note: A book summarizing knowledge concerning adolescent behavior, interests, and attitudes of boys and girls between the ages of 10 and 21 years. It may be used as textbook in the field of adolescent psychology and also may serve to enlighten interested parents, teachers, social workers, and physicians concerning the physical, mental, and emotional development to be expected in the "teen age." The bibliography covers 23 pages, but only 24 references are to literature published since 1945.

HURLOCK ELIZABETH BERGNER

Child development. Second edition. New York McGraw Hill Book Company Inc., 1950 669 p. illus 23 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $5.50 1722

Contents: The history of child psychology. Principles of development. Prenatal development. The newborn infant. Physical growth. Motor development. Development of speech. Emotional development. Social development. Play. Development of understanding. Moral development. Some childhood interests. Family relationships. Personality. Bibliography. Index.

Note: (3164) A well-organized and comprehensive study of the physical and psychological growth of the child from conception to puberty. The first edition covered both childhood and adolescent years, but due to the rapid growth of information in these fields this revision has been limited to the childhood years proper. In spite of the elimination of the material on adolescence, the inclusion of new material accounts for almost 100 additional pages. An expanded bibliography covering 33 pages is included.

HURLOCK ELIZABETH BERGNER

Child growth and development. New York McGraw Hill Book Company Inc., 1949 374 p. illus. 21 cm. $4.00 1723

Contents: Part one, How life begins. Preparing for the baby. The newborn baby. Facts about children. Part two, The child's growth: How child grows. Feeding and clothing the child. Physical care of the child. Learning body control. Learning to talk. Emotions and their control. Part three, The child' problems and habits. Mealtime and bedtime problems. The child's day. What to do about bad habits. Discipline, good and bad. Toys for toddlers. Play and playthings. Part four, The child as person. The child's companions. A place of his own. The child and his clothes. Personality building. Getting ready for school. Bibliography. List of visual aids. Index.

Note: Mother of two children and member of the Psychology Department of the University of Pennsylvania, the author has written practical, non-technical guide to the developmental pattern of the child. Problems likely to arise during the first five years of life are emphasized. Parents using the book will be enabled to compare the physical and mental growth of their children with the accepted norms. Suggestions are given for dealing with children who exhibit obvious deviations from the normal pattern. In addition to the general bibliography of both technical and non-technical books, there are supplementary reading lists at the end of each chapter for those who want more detailed information on some particular aspect. Other noteworthy features include large listing of intelligence tests for the pre-school child, test of readiness for school, and list of films which can be used to supplement the book in group instruction.

KENT, GRACE HELEN

Mental tests in clinics for children. New York D Van Nostrand Company Inc. 1950 180 p 24 cm. (Textbooks on psychology, J P Guilford, general editor) $2.45 1724

Contents: Why children are referred to the clinic. The clinical examination. Sources of error in use of tests. The composite scale versus the battery. Language and performance tests, with and without timing. Use of unstandardized tests. The psychological report. Criteria for construction of clinical tests. Serviceable scales and sub-tests. Home manufacture of materials. Appendices. Bibliography. Index.

Note: A book based on extensive clinical experience. The author is critical of the use of the intelligence quotient (IQ) as sole measuring stick and argues for the use of battery of tests that will provide several different and complementary scores. Against the background of this conviction, she describes and evaluates various types of tests. Much practical information on the conducting of examinations is included. There is bibliography of 170 references.

KUHLEN, RAYMOND G

The psychology of adolescent development (under the editorship of Gardner Murphy) New York Harper and Brothers, 1952 675 p. illus. 24 cm. $5.00. 1725

Contents (abridged): Part I, Physical, intellectual, and cultural backgrounds of adolescent behavior: Physical development and health in adolescence. Adolescent growth in mental abilities. The American culture and adolescent personality. Changing behavior in adolescence as revealed in interest patterns. Part II, Areas of adolescent adjustment: Motivation, adjustment, and emotion in adolescence. Social development and adjustment. Adolescent ideology—attitudes, character and morals. Life philosophy. Educational development of adolescents and adjustment to school. The development of vocational plans and work experiences. Home relationships of adolescents and achievement of independence. Part III, The individual adolescent. Name index. Subject index.

Note: Essentially textbook for college undergraduate courses in adolescent psychology this monograph is useful also for reference. The thorough reader will emerge with the core of knowledge necessary for practical understanding of the field and will know how to apply this knowledge to practical situations. Beyond this, the student is provided with bundle for comprehending and evaluating research literature. The author believes that adolescence and its problems should be considered in the perspective of the developmental trends of childhood and of adult life, not as an independent, overly dramatic entity. In its entirety the bibliography which closes each chapter lists over 500 books and journals, including publications of 1950. Charts and tables are used to present concrete data and to summarize information.

MERRY FRIEDA KIEFER AND RALPH VICKERS MERRY

The first two decades of life. A revision and extension of *From infancy to adolescence.* Under the editorship of Gardner Murphy New York Harper and Brothers, 1950 600 p. illus. 22 cm. $4.00 1726

Contents: How we study children and adolescents. How we begin life. How we grow before and after birth. How our body structure and functions develop. How motor abilities develop. How language develops. How intelligent behavior develops. How we learn. How we gain emotional maturity. How we develop socially. How person-

ality develops. Growth of character and religious experience. Interests in reading, radio, and movies. Creative activities. Author index. Subject index.

Note (3171) An introductory presentation designed principally for use as textbook in courses offered in teachers' colleges. The style is more technical and the content more advanced than in books written primarily for parents. Also, the text is heavily documented with references to the literature. The book is thorough revision and expansion of the authors' *From infancy to adolescence* (1940)

MIDCENTURY WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

Personality in the making. Edited by Helen Leland Witmer and Ruth Kotinsky New York Harper & Brothers, 1952 454 p. 25 cm. $4 50. 1727

Contents: Part I, The development of the healthy personality: The making of healthy personality. The influence of congenital characteristics. The influence of physical limitations. The importance of parent-child relations. Income level and health of personality. The effects of prejudice and discrimination. Religion as an aid to healthy personality development. Part II, Implications for the conduct of social institutions. Some cultural considerations. The family. The church and the synagogue. The school. Leisure-time services. Vocational guidance and employment services. Health services. Social services. Services of law-enforcement agencies. Next steps in research. Members of the staff of the Midcentury White House Conference on Children and Youth. Index.

Note. The conference named in the title of this book was guided and composed of physicians, social workers, educators, psychologists, and members of other professions concerned with the education, guidance, and care of young people. This book is the official report of the conference held in December 1950. It is not written in the condensed technical style that is characteristic of many official reports but is intended for reading as well as for reference. It is both description of the *status quo* and statement of accepted concepts and principles, and is essential reading for anyone interested in this field, particularly as it has been developed and is developing in the United States of America.

MIDCENTURY WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

Proceedings, report of conference sessions Washington, D C., December 3–7 1950 Edward A. Richards general editor Raleigh, N C. Health Publications Institute Inc., 1951 363 p illus. 24 cm. $4 00 1728

Contents (abridged) Introduction. Conference platform. Selected addresses. What we know about the development of healthy personalities in children, by B Spock. Socio-economic influences upon children's learning, by A. Davis. The impact of culture on personality development in the United States today by M. Mead. Children in the world today by C. P Romulo. Selected technical papers: The dynamics of personality development, by F Alexander. The effect of mobilization and war on children, by L. M. Stolz. Principles and patterns of community planning for and with young people, by H. Alt. Summaries of work group opinions. Summaries of panel opinions. International participation. Program, committees, and staff for the conference.

Note This volume contains selected papers and summaries of the opinions of work groups and panels of national conference that was called to consider how we can develop in children the mental, emotional, and spiritual values essential to individual happiness and to responsible citizenship and what physical, social and economic conditions are deemed necessary to this development. It is valuable not so much for its technical content as for its record of current attitudes such as interest in the interrelationships between the social environment and the personalities developed by children.

MILLARD CECIL VERNON

Child growth and development in the elementary school years. Boston D C. Heath and Company 1951 511 p illus. 23 cm. $4.50. 1729

Contents: Part I, Basic growth concepts: Origin of the organismic viewpoint. Principles of growth and development. Interrelations of growth—an approach to study of the child as whole. Part II, Aspects of development: The physical growth of the child. Aspects of motor growth. The growth of intelligence. Language development. The development of creative ability. Personal-social development. Growth and the organization of learning. Part III, Concomitants of growth and learning: The role of emotion in child development. The development of moral and ethical behavior. The development of personality. Discipline and the growth process. Mental hygiene from the standpoint of growth. Index.

Note. Preliminary to his direction of child development observation center the author gave ten years to study and research with 400 children during which time some 100,000 observations were made and recorded. On the basis of this experience he presents an introductory overall picture of the physical and mental development of the elementary school child. The volume, intended for pre-service and in-service teachers, administrators, and others interested in child development, begins with an exploration of the principles of child development, follows with discussion of certain of its phases, and concludes with several chapters on those aspects of child development which are accompaniments of growth rather than measurable and direct phases of it—emotion, moral and ethical behavior, personality discipline, and mental hygiene from the standpoint of growth. Developmental changes in the child and on the relationship between the school environment and such changes are emphasized.

MYKLEBUST, HELMER R.

Your deaf child, a guide for parents. With a foreword by Hallowell Davis. Springfield, Illinois Charles C Thomas 1950. 133 p. illus. 22 cm. (American lecture series. Publication number 94 A monograph in American lectures in otolaryngology edited by Norton Canfield) $3.00. 1730

Contents. What deafness means to you. Causes and types of deafness. Your attitudes and what they mean. The deaf child and his needs. Learning to care for himself. Learning to communicate. What to expect from your child. Organizations which can help—reading materials—directory of schools. Index.

Note. A practical and reliable book in which the general and particular problems of managing deaf children in the home are discussed specifically and sympathetically. It is useful not only for help on problems directly related to deafness but also for collateral matters such as discipline and toilet training. The author is Director of the Children's Hearing Clinic of Northwestern University.

OLSON WILLARD CLIFFORD

Child development. Boston D C. Heath and Company Inc., 1949 417 p. illus. 23 cm. $4 00. 1731

Contents. Growth and development. Growth periods and educational programs. The expression and nurture of mental growth. Growth in school achievement. The child as whole. The human relations of the classroom. The child in the home and community. The affective life of the child. The teacher in individual and group relationships. Concepts of child development in curriculum and methods. Concepts of child development in the organization and administration of schools. The philosophy of growth. Appendixes: Textbooks and manuals in child development. Finding, abstracting and reviewing services. Instructional films. Manual for the behavior journal. Index.

Note This approach to child development is oriented toward school teachers. It is, however, comprehensive approach to the concepts of child development and to growth point of view concerning the organization and adjustment of behavior. A good deal of attention is given to the modern social point of view in education. Illustrations and graphs are excellent.

PLANT JAMES STUART

The envelope study of the impact of the world upon the child. New York The Commonwealth Fund 1950. 299 p. 23 cm. $3.00. 1732

Contents: Introduction. Security Authority Status [illegible] Cohesion. [illegible] The feeling of difference. Symbolization and reality. [illegible] in the sense of integration in the sense of self-sufficiency. Integration in the sense of cohesion. Physical expression of the sexual urge. The [illegible] values of sexual expression. Temperament. Reactions to [illegible] Emotional development [illegible] problems. Adequacy Intelligence. [illegible] — —) [illegible]—heterosexuality. [illegible] rivalry Personality differences. Some other problems. The search of meaning. Appendix. References. Index.

Note: (3131) This book complements and to some extent supersedes the author's *Personality and the culture pattern*, New York, 1937 Like the earlier work, it is thoughtful analysis of the influences of the social environment upon the development of the individual personality in children, especially adolescents. The author's viewpoint (expressed in his own words) was "normally the personality has the ability to shut out large sectors of its environment and to translate those parts that it takes in into usable or understandable material. It is the part of the personality where this occurs that I call the envelope." He describes how personality is molded but offers no rigid conclusions about how the processes should be altered or changed. The treatment is on professional level and the book is organized and written so as to make it understandable not only to psychiatrists but also to psychologists, social workers, and educated laymen.

REDL FRITZ, AND WILLIAM W WATTENBERG

Mental hygiene in teaching Under the editorship of Willard B Spalding and Ernest R. Hilgard. New York Harcourt, Brace and Company 1951 454 p. 22 cm. $3 75 1733

Contents: Part A, Introduction Food for thought. What it is all about. Part B, Some fundamentals: Behavior mechanisms. Growth. Influences that shape lives. Some personality distortions. Adjustment, maturity and normality Part C, Classroom applications Mental hygiene and school learning. Group life in the classroom. The psychological roles of teachers. Diagnostic thinking in the classroom. Influence techniques Some common dilemmas teachers face. Children who need special help. Working with parents. Teachers' problems. Limitations of mental hygiene in education. Part E, Appendixes: Sources of additional help and information. Meaning of special terms. Index.

Note: Well versed in modern dynamic concepts of personality development, the authors of this book have made distinct contribution to teachers who wish to approach children as individuals and to view the adjustment problems of children as real and significant. There is practically none of the technical terminology of clinical psychology Instead, the book is written in the common language. The cases and situations described are typical of those encountered in public schools. The appendixes contain guide to periodicals and pamphlets on mental hygiene, to audio-visual aids, and glossary of technical terms.

SCHNEIDERS ALEXANDER ALOYSIUS

The psychology of adolescence a factual and interpretive study of the conduct and personality of youth. Milwaukee The Bruce Publishing Company 1951 550 p. 23 cm. $4.00. 1734

Contents (abridged) Part Introduction Basic concepts of adolescent psychology Part II, Physical development during adolescence. Part III, The nature and development of motivational factors. The determinants of human conduct. Pleasure, pain, reward, and punishment. Part IV The dynamics of adolescent conduct: Adolescent needs and desires. Psychosexual development during adolescence. Development of interests and attitudes Development of values, ideals, and principles Part , The nature and development of temperament and character: Emotional development in adolescence. Moral and religious development during adolescence. Part VI, Social development in adolescence—growth in personality Part VII, Sensory and intellectual development during adolescence: Development of the psychophysical functions The development of intelligence Bibliography Glossary Index

Note: A broad and readable account of the psychological development of adolescents, addressed to parents, teachers, and college students. Throughout the book emphasis is given to explanations of why young people behave as they do, rather than to descriptions of typical behavior patterns. The importance of social pressures in the development of personality is given considerable attention, and there are frequent mentions of fundamental studies and experiments in this sphere. Each chapter concludes with selected lists of readings The latter are supplemented with 12 page bibliography

SLAVSON SAMUEL RICHARD

Child psychotherapy New York Columbia University Press, 1952 332 p 24 cm. $4.50 1735

Contents (abridged) Part one, Development: Normal needs in child development. Part two, Psychopathology: Pathogenic factors in childhood. The pathogenesis in interpersonal relations. Clinical approaches to child psychotherapy Part three, Psychotherapy: The dynamics of psychotherapy The psychotherapist in reality and phantasy Psychotherapy and therapeutic guidance of parents. Group psychotherapy with children. Treatment of neurotic nine year-old boy with organic deficiency (a case study) Index.

Note: Discussions of the principles and of the techniques of group treatment of emotionally disturbed and socially maladjusted children under twelve years of age form the main content of this treatise. However it is not limited to descriptions of clinical procedures, nor is the primary emphasis upon them. Instead, the author presents rounded picture of the child's normal psychological needs and of the familial and social influences which thwart these needs and lead to psychological maladjustment. The author is leader in the development of group psychotherapeutic techniques and the book is based on extensive experience with group therapy of children.

STRANG, RUTH

An introduction to child study Third edition. New York The Macmillan Company 1951 705 p. illus. 22 cm. $4 75 1736

Contents (abridged) Part one, The roots of behavior: The baby at birth. *Hereditary influences.* Part two, *Early preschool period*—the first two years: How the baby learns. Child study and parent guidance. Part three, The preschool period—years three, four and five: How preschool children learn. Special problems of the later preschool period. The family's daily routine and the child' diet. Study and guidance of preschool children. Part four, The primary period: Development during years six, seven, and eight. Problems of the primary period *Child study and guidance. Part five, From* the primary period to adolescence Learning in the preadolescent period. Special problems of preadolescents. Part six, The adolescent years. Index of names. Index of subjects.

Note: (3132) An established book which is extensively used as textbook for college courses, guide for study groups composed of parents, and reference manual for individual parents and teachers. It presents an overall survey of the subject with emphasis on the applied aspects Such topics as how children six to eight years old learn are discussed at considerable length. The previous edition appeared in 1938. The present edition represents very extensive revision.

SYMONDS PERCIVAL MALLON

Adolescent fantasy an investigation of the picture-story method of personality study New York Columbia University Press 1949 397 p. illus. 24 cm. $6 00 1737

Contents Introduction. A review of literature on the thematic apperception test The pictures and the data of the study Theme analyses. Inventory of themes in adolescent fantasy Norms on the picture story test. Comparison of fantasy and character. Associations to the stories. Study of quantitative relationships Final selection of pictures, with data on the fantasy value of the pictures. Significance of fantasy in personality *Implications of fantasy for counseling and* psychotherapy Characteristics of adolescent fantasy Case of Jack. Case of Jimmy Summary and conclusions. Appendixes: Sketches of the forty cases. Personality traits of the forty cases as inferred from the stories and as observed in real life. Theme headings. Frequency of themes by picture. Correlation tables. Bibliography on the thematic apperception test. Index.

Note The findings of *systematic study of forty normal students* equally divided as to sex and selected from junior and senior public schools are presented in this book. The main technique in the study was the use of the thematic apperception test, and forty-two original pictures designed especially for the elicitation of adolescent fantasy were used in the test. These pictures are reproduced at the end of the book. The stories as told by the subjects are analyzed in detail according to accepted psychoanalytic concepts; and the author states "The picture of the adolescent which this study presents agrees closely with psychoanalytically oriented analyses of the adolescent years." The thematic apperception test is shown to be valuable research technique in the study of the personality of adolescence.

TEMPLIN MILDRED C

The development of reasoning in children with normal and defective hearing Minneapolis The University of Minnesota Press, 1950. 143 p. illus. 24 cm. (University of Min-

nesota. The Institute of Child Welfare. Monograph series. No. xxiv) $3 00 1738

Contents: Introduction. The experiment. Analysis of reasoning by matched group technique. Comparison of the reasoning of the hearing and defectively hearing subsamples. Intercomparison of the reasoning within the experimental groups. Written language used in explanation of the Deutsche questions. The defective hearing. Summary Bibliography Index.

Note. The report of a study whose purpose is explained thus by the author: "The present study was designed to explore the effect upon reasoning of the restriction of experience by an intrinsic factor and by an extrinsic factor The intrinsic factor selected for this study was the reduction of hearing acuity The extrinsic factor selected was the reduction of the breadth and complexity of the environment through residence in an institution. Tests were made of 850 children in elementary and high school grades five through twelve. These comprised: ( ) 272 day school hearing subjects, whose environment was restricted by neither the extrinsic nor the intrinsic factor; (b) 283 residential hearing subjects, whose environment was restricted only by the extrinsic factor; (c) 108 day school defective hearing subjects, for whom only the intrinsic restricting factor was present; and (d) 177 residential defectively hearing subjects, whose environment was restricted by both the extrinsic and intrinsic factors. The methodology of the study is described and the results are presented for the use of such professionals as educators and psychologists, especially those who are concerned with the training of handicapped children.

THOMPSON GEORGE GREENE

Child psychology growth trends in psychological adjustment. Boston Houghton Mifflin Company Inc. 1952 667 p. illus. 22 cm. $5 50 1739

Contents: Studying the child's behavior and development. The new-born infant. Maturation basic process in behavioral change. Psychological adjustment. some general principles. Sensory and perceptual development. The development of motor abilities. Developmental trends in emotional behavior Language development. The meaning and measurement of intellectual development. Developmental trends in social behavior. Guiding the social development of children. The development of personal and social values. Developmental trends in personality Index.

Note This is a scholarly contribution to the general textbooks in child psychology The average undergraduate with no more than one general psychology course as preparation may find it somewhat difficult going, but more mature students will find it an exceedingly useful reference. The material on social development is particularly good. Graphic and tabular material have been well chosen and particularly well reproduced.

WECHSLER, DAVID

Wechsler intelligence scale for children. New York The Psychological Corporation, 1949 114 p. illus. 23 cm. Paper $2.50 1740

Contents. The rationale of the children's scale. Standardization statistics. General testing considerations. Table for converting scaled scores into IQs Scaled score equivalents for raw scores. Directions for administering the tests Appendices General comprehension—scoring criteria. Similarities—scoring criteria. Vocabulary—scoring criteria. Mazes—error guide. Equivalent test ages for the WISC. Presenting table.

Note The Wechsler Intelligence Scale for Children (WISC) consists of ten tests all of which are ordinarily given to every subject tested. This is the manual for the use of the examiners who administer the tests. As the table of contents indicates there is some background information about the tests but most of the manual is devoted to techniques of administering and scoring the tests in the Scale.

PSYCHOLOGICAL TESTING

BAUMAN MARY KINSEY AND SAMUEL P HAYES

A manual for the psychological examination of the adult blind. A project of the National Psychological Research Council for the Blind. New York The Psychological Corporation, 1951. 58 p. 23 cm. Paper $1.25. 1741

Contents: Why a special manual for testing the blind. Then things we all should know Special considerations in the client's history Tests and testing techniques. Reporting the psychological examination. Bibliography Appendix.

Note. The special problems encountered in administering psychological tests to the blind are considered in this booklet. The chapter on tests and testing techniques contains descriptions and evaluations of a selection of standard tests which have been used or may be used in testing the blind. The book is of interest to graduate psychologists who are concerned with testing of blind persons.

BECK SAMUEL J

Rorschach's test 1. Basic processes. Foreword by James G Miller Second edition. New York Grune & Stratton, 1949 227 p. illus. 24 cm. $4.00. 1742

Contents: Experimental procedure. The whole response: W Detail and rare detail: D and Dd. Scoring problems. The white space: Ds and Dds. The organization activity: Z. Approach and sequence: Ap. Seq. The movement response: M. The color response: C. The light-determined response: FV Y T Diverse determinants. Important ratios. The form response: F+ and F−. The popular response: P Content. Scoring record and summary Bibliography Appendix 1. Table of organization (Z) values in the ten figures. Appendix 2. Synopsis of changes from Dd to D. Appendix 3. Graph of approach expectancy for R to 120. Appendix 4. Numerical designations of most frequently selected D and Dd. Index.

Note: (1930, 1937*) One volume of a series of studies of the Rorschach tests. The evaluation of responses is demonstrated. The responses are cited verbatim and each of them is evaluated or scored in terms of the symbols of Rorschach test language. Scoring only is covered; no interpretations are offered. The first edition was published in 1944. Extensive research carried out at Michael Reese Hospital since the publication of the first edition in 1944 has been used as a basis for revisions made in the work for this edition. Among the more prominent changes are enlargement of the F+ list and the addition of a symbol T for texture-dictated associations.

BENNETT GEORGE K., AND OTHERS

Differential aptitude tests manual. By George K. Bennett, Harold G. Seashore, and Alexander G Wesman. Second edition. New York The Psychological Corporation, 1952 77 p. illus. 28 cm. $1.80. 1743

Contents: An integrated battery of guidance tests. Administration and scoring. Norms and profiles. Validity Reliability Principles of differential measurement. Appendices. Correlations of the DAT with other tests. Development of form B of the Mechanical Reasoning test. Bibliography

Note: The *Differential Aptitude Tests* are a battery of tests developed to provide an integrated, scientific and well standardized procedure for measuring the ability of boys and girls in grades 8 through 12 for purposes of education and vocational guidance. In this manual the eight tests are described, and directions are given for their administration and scoring. A good share of the space is devoted to data on norms, validity reliability etc., of the tests. The manual is addressed primarily to school personnel who will use the *Differential Aptitude Tests* in the testing of students. It is also of interest as an example of a well organized test manual to psychology college students and graduates with professional interests in psychological testing. The first edition was published in 1947 The most important new matter in the new edition bears on the validity of the tests as established by research studies.

BUROS OSCAR KRISEN editor

The third mental measurements yearbook. New Brunswick Rutgers University Press, 1949 1047 p. 27 cm. $12.50. 1744

Contents. Tests and reviews: Achievement batteries. Character and personality English. Fine arts. Foreign languages. Intelligence. Mathematics. Miscellaneous. Reading Science. Social studies. Vocations. Books and reviews. Periodical directory and index. Publishers directory and index. Index of titles. Index of names. Classified index of tests.

Note: The sixth in a series of volumes, begun in 1935, designed to aid workers in the fields of education, personnel administration, and psychology in locating and evaluating tests and books on testing. The aim is to include all commercially available tests published in English between October 1940 and December, 1947. Section one lists 663 tests in the above-indicated fields, accompanied by rather lengthy reviews and appraisals of the tests. A similar arrangement is followed in the second section for 549 books on measurements and related topics. Each section includes extensive bibliographies relating to the test or book under discussion.

CRONBACH LEE JOSEPH

Essentials of psychological testing. Under the editorship of Gardner Murphy New York Harper & Brothers, 1949 475 p. illus. 24 cm. $5.00. 1745

Contents: Part I, Basic concepts: Who uses tests? Purposes and types of tests. Interpreting test scores. How to choose tests. How to give tests. Part II, Tests of ability The Binet scale and its descendants. Mental diagnosis: the Wechsler test. Other tests of general ability Factor analysis: the sorting of abilities. Tests of special abilities. Problems in prediction: prognostic tests. Measures of achievement. Part III, Testing of typical performance: Problems and practices. Self-report techniques—personality Self-report techniques—interests. The use of test results in counseling. Self report techniques—attitudes. Observation of behavior in normal situations. Observation in test situations. Projective techniques. Appendixes: Reviews of studies of testing. Principal test publishers and distributors. Author index. Subject index.

Note: A textbook for college students. The author recognizes that the multiplication of available tests makes it impossible for the student to study them all and consequently concentrates on the basic principles of testing in order that the student may learn to choose tests wisely for particular needs and to be aware of the weaknesses of whatever tests he uses. At the same time he introduces the tests most widely used and most widely cited in the literature of the subject and, by critical analysis of such tests, provides examples of the application of the underlying principles. A selective summary listing of tests is included in many of the chapters, with accompanying critical remarks from qualified reviewers. Suggested readings and references appear at the conclusion of each chapter.

FREEMAN FRANK SAMUEL

Theory and practice of psychological testing. New York Henry Holt and Company 1950 518 p illus. 22 cm. $4 10 1746

Contents: Basic principles—theoretical and clinical. Statistics in psychological testing. Definitions and analyses of intelligence. The Binet scales. Revisions of the Binet-Simon scale. Semi-performance and performance scales. Nonverbal group scales of mental ability Verbal and mixed group scales of mental ability Scales for infants and preschool children. Aptitude tests. Tests of educational achievement. Intelligence tests as clinical instruments. Personality inventories and rating scales. Projective methods. Situational tests. Applications and problems. Index.

Note: Presents a descriptive treatment of the chief varieties of tests currently used for assessing the intelligence, personality and aptitudes of individuals. The book is intended for use as a text by psychology students, social workers, personnel officers, and others employing psychological tests. Emphasis is placed on the purpose, method of application, and interpretation of each test, but material is also included on the principles and theories upon which the tests are based. Although an elementary knowledge of statistical methods is desirable, a chapter on the subject is provided for students who lack this training.

GOODENOUGH FLORENCE LAURA

Mental testing: its history principles and applications. New York Rinehart & Company, Inc., 1949 609 p. illus. 24 cm. $5 00 1747

Contents (abridged) Part I, Historical orientation: The social need for mental diagnosis. The educational need. The early tests, 1887–1911. Later developments. Part II, Principles and methods: The bearing of testing theory upon test interpretation. The analysis and selection of test items. Units of measurement. Age standards and quotients as interpretative measures. Means, medians, and percentiles. Other devices for interpreting test scores. Testing the tests. Analysis of variance. Some questions of mental organization. Part III, Tests and scales. The conduct of an examination, with particular reference to the testing of young or difficult children. The measurement of special talents and deficiencies. The measurement of motor development and motor skill. The measurement of interests and attitudes. The measurement of personal-social characteristics. Projective methods for the study of personality. Tests for vocational guidance. Part IV Applications: Testing in schools and colleges. Testing in clinical practice. The use of tests in industry. Testing the Armed Forces. The use of tests in the study of group differences. Glossary Bibliography Author index. Subject index.

Note: A general survey of the development and current status of mental testing and mental tests. Particular attention is paid to the history of testing, the currently understood basic principles of testing, and to the chief types of tests. The book is useful to persons who want an inclusive and fairly detailed view of the subject, especially educators and others who are concerned with the selection and administration of tests.

GREENE EDWARD BARROWS

Measurements of human behavior Revised edition. New York The Odyssey Press, 1952 790 p. illus. 21 cm. $4 75 1748

Contents: Part one, Achievement and aptitude. Introduction. Types of appraisals. Characteristics of a good instrument. Construction of test items. Tests of early childhood. Individual tests of ability Measures of educational achievement. Group tests of ability Mechanical and motor tests. Tests of special aptitudes. Military development of tests and ratings. Part two, Elementary statistics. The interpretation of scores. Measures of relationship. Factorial analyses. Part three, Dynamic patterns: Personality—dynamic theory and structure. Types of situation. Drawing, painting, and handwriting. *Stories and fantasies. Play and drama. Interests. Appraisals of attitudes.* Personality inventories. Rorschach techniques. Observations of behavior. Appendixes: Publishers of tests and inventories. Classified list of tests and inventories. Index of authors. Subject index.

Note: (1952) An established textbook and reference manual. It provides at the same time a comprehensive view of behavioral measurement techniques and descriptive analyses of a wide variety of tests. The classified list of tests and inventories included as an appendix runs to 77 pages. The first edition was published in 1941. In the present edition the work has been rearranged, partially rewritten and widely revised so as to include material that has become available since 1941. Two completely new chapters deal with military contributions (the results of World War II experience) and personality theories. The useful lists in the appendixes also are new additions. The extensive bibliography which serves also as the author index, has been revised.

GULLIKSEN, HAROLD

Theory of mental tests. New York John Wiley & Sons, Inc. 1950 486 p. illus. 23 cm. (Wiley publications in psychology Herbert S. Langfeld, advisory editor) $6.00 1749

Contents (abridged) Basic equations derived from a definition of random error Fundamental equations derived from a definition of true score. Errors of measurement, substitution, and prediction. Effect of test length on mean and variance. Effect of test length on reliability Effect of test length on validity Effect of group heterogeneity on test reliability. Correction for univariate selection in the three-variable case. Correction for multivariate selection in the general case. A statistical criterion for parallel tests. Experimental methods of obtaining test reliability Reliability estimated from item homogeneity Speed versus power tests. Methods of scoring tests. Problems of weighting and differential prediction. Item analyses. Bibliography Appendixes. Author index. Topic index.

Note: The subject of this book is the mathematical theory and statistical methods used in interpreting psychological results. It is a well-organized advanced textbook which can also serve as a reference book. The author who is Research Adviser for the Educational Testing Service at Princeton and Professor of Psychology at Princeton University points out that, although the book is primarily for those working in test development, the techniques are applicable in fields other than test construction, such as measurement of attitudes or opinions, appraisal of personality and clinical diagnosis. Illustrative computing diagrams are given for those formulas simple enough to be changed into a linear form. The book brings together the technical developments in test theory of the first half of the twentieth century and in its introduction goes back to the beginnings in the 1890' There is a comprehensive bibliography

HARRIS, ROBERT E., AND OTHERS

Recent advances in diagnostic psychological testing, a critical summary Springfield,

Ill. Charles C Thomas, 1950 120 p. 22 cm. (American lecture series. Publication number 81 A monograph in American lectures in psychology Edited by Molly R. Harrower) $2 75 1750

Contents: Contemporary trends in psychodiagnosis, by J G. Miller Psychodiagnostic testing in psychiatry and psychosomatic medicine, by R. E. Harris. Neuropsychology, by H. L. Teuber Occipital lobes. The temporal lobes. The parietal lobes. The frontal lobes. Interpretations. References. The application of diagnostic psychological methods to counseling and psychotherapy by G. A. Muench: Treatability of patients. Success of therapy Process of therapy Comparative evaluation of therapeutic techniques. Tests as therapeutic agents. Development of new types of diagnostic devices. The personality of the therapist. References. Recent developments in diagnostic testing of children, by L. J Stone: Basic concepts of development and personality Diagnostic advances in nonprojective testing methods. Diagnostic advances in projective techniques. Conclusions. References. Test construction and methodology by J Zubin.

Note. This publication contains concise reviews of the recent applications of diagnostic psychological methods in the fields of counseling, psychotherapy psychiatry psychosomatic medicine, clinical neurology, and child development. Advances in mental test construction and interpretation are described and discussed, and the direction of future research is considered. The papers were originally read at the Symposium on Recent Advances in Diagnostic Techniques at the 1948 Boston meeting of the American Psychological Association.

HARROWER, MARY RACHEL, AND M E STEINER

Large scale Rorschach techniques Second edition. A manual for the group Rorschach and multiple choice tests With contributions by Floyd O Due, Beatrice A. Wright, and M Erik Wright. Springfield, Illinois Charles C Thomas 1951 353 p illus 24 cm. (American lecture series Publication number 82 A monograph in American lectures in psychology, edited by M R. Harrower) $9 00 1751

Contents (abridged) The group Rorschach—development, administration, scoring. Analysis of group Rorschach material in terms of location, determinants, and content. A multiple choice test for screening purposes. Recent developments in group techniques for the Rorschach test. An analysis of content. A statistical study of "card-pull. Index.

Note. A pioneer work in the administration of the Rorschach ink-blot test to groups of persons rather than to individuals. It was based originally upon an experimental investigation of the group technique, in which 340 persons took part and gave total of 8,526 responses. These responses were analyzed from various standpoints and the results are presented in Part Two of the book. The essential technique evolved is the projection of Rorschach blots on screen at the front of the auditorium while the persons being tested individually record their responses in specially prepared booklets. In variation of this technique the blots are printed in the booklet itself and projector is unnecessary The book is addressed to professional psychologists, and familiarity with the basic Rorschach test is assumed in the treatment The first edition was published in 1944. Experience acquired since that time in group techniques has been incorporated in this extensively revised edition

HATHAWAY STARKE ROSECRANS AND PAUL E MEEHL

An atlas for the clinical use of the MMPI. Minneapolis The University of Minnesota Press 1951 799 p. 27 cm. $9 75 1752

Contents (abridged) The making of the atlas Arrangement and description of the data. The use of the atlas and its indexes. Bibliography Case histories Low point index Contributors' index Diagnosis index Mf index L index F index K index.

Note. A reference book for clinical psychologists who use the Minnesota Multiphasic Personality Inventory Most of the space is devoted to 968 case histories, which are summaries of actual records of patients, most of them were patients of the Psychiatric Unit of the University of Minnesota Hospitals The histories are coded according to the MMPI profiles. They were selected to provide representative cross section of clinical experience with the MMPI.

LINDQUIST, EVERET FRANKLIN, editor

Educational measurement. Washington, D C American Council on Education, 1951. 819 p illus. 25 cm. $6 00. 1753

Contents. Foreword, by G. F Zook. Part one. The functions of measurement in education The functions of measurement in the facilitation of learning, by W W Cook. The functions of measurement in improving instruction, by R. W Tyler. The functions of measurement in counseling, by J G. Darley and G. V Anderson. The functions of measurement in educational placement, by H. Chauncey and N Frederiksen. Part two. The construction of achievement tests: Preliminary considerations in objective test construction, by E. F Lindquist. Planning the objective test, by K. W Vaughn. Writing the test item, by R. L. Ebel. The experimental tryout of test materials, by H. S. Conrad. Item selection techniques, by F B. Davis. Administering and scoring the objective test, by A. E. Traxler. Reproducing the test, by G. Spaulding. Performance tests of educational achievement, by D. G. Ryans and N. Frederiksen. The essay type of examination, by J M. Stalnaker Part three, Measurement theory: The fundamental nature of measurement, by I. Lorge. Reliability by R. L. Thorndike. Validity by E. E. Cureton. Units, scores, and norms, by J C. Flanagan. Batteries and profiles, by C. L. Mosier. Index.

Note. A reference work and textbook sponsored by the American Council on Education's Educational Advisory Committee, Measurement Book Project. The various chapters were written especially for the volume by recognized authorities on educational testing. The treatment is on the graduate level, and the book is of interest to graduate students in the field of educational testing and to psychologists, educators and others with professional interests in the subject. Extensive lists of references to the literature are included.

MICHEELS, WILLIAM JORDAN AND M. RAY KARNES

Measuring educational achievement. New York McGraw Hill Book Company Inc., 1950 496 p illus. 24 cm. (McGraw Hill series in education, Harold Benjamin, consulting editor) $5 50 1754

Contents: An introduction to measurement. Kinds and types of evaluating instruments. Purposes of evaluation. What makes good test. General principles of test construction. Multiple-choice items. True-false items. Matching items. Recall items. Modified, adapted, and combined items. Object tests. Manipulative-performance tests. Observation and evaluation. Evaluating major projects. Interpreting test data and assigning marks. Analyzing and improving tests. Improving your instruction—a challenge. Index.

Note General aspects of the use of tests in measuring educational achievements are discussed in the first three chapters of this book for professional teachers. The remainder is devoted to the principles and techniques of test construction. The purpose is to aid teachers in constructing tests and using them. Many of the examples are of tests suitable for use in connection with vocational education. However the general principles stated are generally applicable to other than vocational tests. The authors are members of the faculty of the Industrial Education Department of the University of Minnesota.

MURSELL JAMES LOCKWOOD

Psychological testing. Second edition. New York Longmans, Green & Co., 1949 488 p. 21 cm. $4.50 1755

Contents The general characteristics of mental tests. Psychological tests as instruments of measurement. The concept of general intelligence. Scales for the measurement of intelligence. Group tests of intelligence. Aptitude testing. Tests of personality interest, attitude and character. Applications of mental tests and their implications for testing. Wider psychological issues in mental testing. The evaluation and improvement of mental testing. Bibliography. References in the text other than to tests. Tests discussed in the text. Typical index. Index of references appearing in the text.

Note (1517*) The history of psychological testing, the basic theories, and the current status are covered in this work. As one of the important features, tests currently in use or of interest are described and critically evaluated. The first edition was published in 1947. Important additions and revisions were made in preparing the second edition. These include the incorporation at appropriate points of the results of approximately 180 research studies and the description and evaluation of twelve additional tests. The book is addressed primarily to advanced students of psychology. It is useful also as reference book to graduate psychologists, educators, and

others who are interested in psychological testing in general or in specific tests.

PASCAL, GERALD R., AND BARBARA J SUTTELL

The Bender-Gestalt test quantification and validity for adults. Foreword by David G Wright. New York Grune & Stratton 1951 274 p. illus. 26 cm. $6.50 1756

Contents: Part I, Quantification Introduction. Administration and scoring. Reliability Test standardization. Test validity Part II, Clinical use of the Bender-Gestalt test Introduction. The records of children and those with cortical deficit. The Bender-Gestalt test and psychogenic disorders. Appendix. Scoring manual. Index.

Note: In this book critical examination of techniques in the administration of the Bender-Gestalt test to persons suffering from mental or nervous disease and of the validity of test results is combined with practical manual on the clinical use of this test and the scoring of results. One of the conclusions of the authors is that "clinical judgment must be added to the quantitative score. However, more than half of the space in the book is occupied by the scoring manual and the atlas of scored records. The authors are associated with the Western Psychiatric Institute and Clinic. There is three-page list of references.

ROSENZWEIG SAUL

Psychodiagnosis an introduction to tests in the clinical practice of psychodynamics. With the collaboration of Kate Levine Logan. New York. Grune & Stratton, 1949 380 p. illus. 22 cm. $5.00 1757

Contents: Part I, Introduction: Clinical psychology as psychodiagnostic art. Part II, The range of available instruments: Scope. Tests of general intelligence. Measures of intellectual deviation. Vocational aptitude and interest tests. Personality inventories. Projective methods. Part III, The process of psychodiagnostic integration: The picture of the individual. Young woman with anxieties concerning adult status. A child with problems of post-encephalitic origin. An adolescent with episodes of morbid excitement. Part IV A variety of applications: The province of clinical practice. Psychotic reaction to military service. Psychotic overtones. Evaluation of limited intellectual capacity Defect of function from neurological damage. Maladjustment in later maturity Somatic complaint as an expression of personality Amnesia as pattern of reaction. Homicide on an unconscious basis. Part The future: Psychodiagnosis as science. Bibliography Index.

Note: This book attempts to integrate the objective tests of cognitive function and of personality with projective devices. By use of case materials in which several tests are compared and related to one another the author demonstrates the clinical use of personality evaluation in obtaining total picture of the individual. Primarily for graduate students and professional psychologists.

SHNEIDMAN EDWIN S

Thematic test analysis. With the collaboration of Walther Joel and Kenneth B Little. Foreword by Henry A. Murray New York Grune & Stratton, 1951 320 p illus. 26 cm. $8.75 1758

Contents (abridged) Introduction. Part I, Thematic test data: Thematic apperception test. Part II, Techniques of thematic test analysis, by Magda Arnold, Betty Aron, Leopold Bellak, Leonard Eron, Reuben Fine, A. Arthur Hartman, Robert R. Holt, Walther Joel, David Kaplan, Seymour Klebanoff, Sheldon Korchin, Jean L Logan, Julian B Rotter, Shirley Jones, Helen D. Sargent, Percival M. Symonds, and Ralph K. White. Part III, Additional test data: Rorschach test, interpreted by Bruno Klopfer. Wechsler-Bellevue scale, interpreted by Helen Kitzinger. Minnesota multiphasic personality inventory interpreted by Harry Gough. Draw person, interpreted by Karen Machover. Bender-Gestalt drawings, interpreted by Max L. Hutt. Part IV, Behavioral data: Psychiatric case history abstract (V.A. Neuropsychiatric Hospital). Course in neuropsychiatric hospital. Psychiatric follow-up interview Part Synthesis and summary. Bibliography Index.

Note: This unusual book is built around the detailed interpretations by individual psychologists of thematic apperception test (TAT) and complementary make picture story test (MAPS) administered to one mentally disturbed person who was unknown to the contributing psychologists. The various analyses of these two tests are supplemented by single interpretations of the responses to other tests by the same patient, by an abstract of the actual case history, and by summaries by the book's authors. The value of the book lies in its illustrations and discussions of the analytical methods used on the same test responses by various graduate psychologists.

SNYDER, FREDERIC WINKLER, AND N H. PRONKO

Vision with spatial inversion. Wichita, Kan. University of Wichita Press, 1952 144 p. illus. 21 cm. $2.50 1759

Contents: Studies in perception. The problem and general plan of the present study The card-sorting task. The Minnesota rate of manipulation test. The Purdue pegboard test. The mirror-tracing task. Observations on extra-experimental activities. Theoretical discussion and summary Bibliography Appendix: Experimental diary

Note: Reported in this book are the results of an experiment planned to obtain answers to the following questions: What occurs in perception when the visual field is inverted? What is the influence of past-experience on performance during disorientation and following removal of the inverting lenses?" During considerable part of the experiment the field of vision of the subject was both inverted and considerably restricted. Restriction and inversion of the visual field were accomplished by system of lenses set into pair of tubes so as to constitute binocular unit-power telescope. The effects of the disruption of established visuo-motor habits were studied by various tests of learning, some of which are named in the chapter titles. The diary printed in the appendix was kept by the subject himself and states the effects as they appeared to him. In the first chapter of the book previous studies which resemble the purpose and methodology of this study are discussed.

SUPER, DONALD EDWIN

Appraising vocational fitness by means of psychological tests. New York Harper & Brothers 1949 727 p. 24 cm. $6.50 1760

Contents (abridged) Testing and diagnosis in vocational guidance. Testing and prediction in vocational selection. Methods of test construction, standardization, and validation. The nature of aptitudes and aptitude tests. Test administration and scoring. Intelligence. Proficiency Clerical aptitude—perceptual speed. Manual dexterities. Mechanical aptitude. Spatial visualization. Aesthetic judgment and artistic ability. Musical talents. Custom-built batteries for specific occupations. Standard batteries with norms for specific occupations. Measures of interests. Personality attitudes, and temperament. Appraising individual vocational promise. Using test results in counseling. Preparing reports of test results. Illustrative cases—data and counseling. Appendix: Statistical concepts. Prediction and probability Test publishers and scoring services. Bibliography Index.

Note: A comprehensive treatise in which the theory of the use of tests in vocational counseling, the principles of test construction, techniques in test administration and scoring, and other general aspects are covered along with descriptions of individual tests. One of the most useful features is the evaluating of particular tests in the light of accumulated experience with them. References to the original publication of the research studies on which the evaluations are based are carefully given. The book is addressed to persons with professional interests in the use of tests in vocational aptitude measuring and vocational counseling Case histories illustrating the application and use of particular tests are included. The bibliography contains 953 references to books and periodicals.

TRAVERS ROBERT MORRIS WILLIAM

How to make achievement tests. New York The Odyssey Press, 1950 180 p. illus. 21 cm. $2.25 1761

Contents (abridged) Introduction Measurement and evaluation. The expanding meaning of achievement. Systematic versus unsystematic evaluation procedures. Inadequacies in the statement of educational goals. Steps in planning evaluation instruments: Stating the educational goals. Assigning weights to the goals. The selection of measuring techniques. Objective-type test questions: Origin of the objective test. The completion item. The true-false item. Rules for constructing multiple-choice test questions: The control of the difficulty of test questions. The assembly administration, and scoring of the test. The significance of test scores Some considerations in developing grading system. The validity of achievement

tests. The reliability of teacher-made tests. Appendix: Objective methods of scoring free-answer examinations.

Note: A brief and informative guide for teachers. It tells what objective achievement tests can measure, what they cannot be expected to measure, and what are the best methods of constructing such examinations. Also it provides teachers with techniques for defining educational goals in terms which make the extent to which they are achieved measurable function. However the author emphasizes that many of the most important outcomes of education are not subject to measurement by the objective examination.

APPLIED PSYCHOLOGY

BERRIEN, FREDERICK KENNETH

Practical psychology Revised edition. New York The Macmillan Company, 1952 640 p illus. 22 cm. $5 00 1762

Contents. Part 1 Psychology applied to problems of adjustment: Study efficiency Principles of mental health. Mental health and guidance. Treatment of maladjustments. Adjustments in later life. Part 2, Psychology applied to industry: Employment psychology. Training in industry and business. Efficiency in production. Morale and rewards for work. Industrial and highway accidents. Part 3, Psychology applied to consumers and advertising: Consumer and advertising research. Advertising. Part 4, Psychology applied to crime. Factors in criminal behavior Testimony and the courtroom. Detecting deception. Treatment of offenders. Part 5 Psychology applied to personal problems: Vocational guidance. Effective speaking and writing. Appendix Simple statistics. Name index. Subject index.

Note: (3217) A basic text designed for use in introductory college courses. However the inclusive scope and simple style make it useful also to persons out of college who have practical or professional interests in the subject. Literature references are given in the form of footnotes. The first edition appeared in 1944. This edition represents substantial revision and enlargement. The author is member of the staff of the Institute for Research in Human Relations.

BLUM, MILTON L

Industrial psychology and its social foundations. Under the editorship of Gardner Murphy New York Harper & Brothers 1949 518 p. 22 cm. $4 50 1763

Contents (abridged) The Hawthorne studies. Measuring attitudes in business and industry Job satisfaction. Industrial morale. Incentives. Job analysis. Job training Time and motion studies. Fatigue and related phenomena. Work environment. Accidents. Leadership. Industrial warfare. Unemployment. Psychological testing in industry Consumer research. Advertising. Selling. Test appendix. Company and institution index Name index. Subject index.

Note. Primarily college textbook in which is presented an introductory but fairly inclusive survey of applied psychology in the field of labor-management relations in democratic society. The author has drawn rather heavily upon the results of the "Hawthorne studies" conducted from 1927 to 1939 at the Hawthorne Works of the Western Electric Company but he has included material from recent literature also. Programs and experiences of particular companies and institutions are specifically described. In such chapters as that on consumer research he shows applications of psychology to industrial problems other than labor-management relations. Besides its use by students, the book is suitable for industrialists and union executives in need of reliable survey and guide to the more important literature.

BLUM MILTON L AND BENJAMIN BALINSKY

Counseling and psychology vocational psychology and its relation to educational and personal counseling New York Prentice-Hall, Inc. 1951 586 p illus 22 cm. $7 00 1764

Contents. Introduction. Pseudo-scientific guidance. Types of counseling centers. The counseling interview-general. The counseling interview-specific. Principles of vocational testing. Types of vocational tests. The guidance use of intelligence, aptitude, and achievement tests. The guidance use of interest and personality tests. Clinical psychology in relation to vocational counseling. Integrating tests and counseling interviews. Statistics in test interpretation. The concept of interest in relation to counseling. Occupational information. The relation of occupational information to vocational psychology. The counselor. Evaluation of guidance. Employee counseling. Relation of vocational guidance to vocational selection. Index of names. Index of subjects.

Note. The contributions of psychology to the body of knowledge known as vocational counseling is covered in this book. It is useful not only as college textbook but also as home reading for nonpsychologists such as teachers and social workers who are interested in and perform counseling duties. Selective bibliographies appear at the ends of the chapters.

CHAPANIS ALPHONSE, AND OTHERS

Applied experimental psychology human factors in engineering design. By Alphonse Chapanis, Wendell R. Garner and Clifford T Morgan. New York John Wiley & Sons, Inc., 1949 434 p. illus. 24 cm. (Wiley publications in psychology, Herbert S Langfeld, advisory editor) $5 50 1765

Contents. Introduction. A little statistics. The use of statistics. How we see. Instrument dials and legibility Visual displays. How we hear. Speech. Visual signaling systems. How we make movements. Controls for human use. The arrangement of work. Working and resting. The working environment. Index of names. Subject index.

Note. Here is an invaluable work for engineers who design machinery plan production operations, or are concerned with safety programs. Because considerable part of it is derived from investigations and experiments in the control of airplanes, it is of special interest to aeronautical engineers. Another considerable portion of it has direct application to personnel management in factories. A wide range of results of psychological investigations into such matters as the best design for dials, the legibility of type and symbols, the relations between the length of work periods and fatigue have been organized and interpreted. Source articles are carefully cited. Although technical terminology is by no means avoided, the book is outstanding for its readability.

CURRENT TRENDS PSYCHOLOGY IN THE WORLD EMERGENCY By John C. Flanagan and others. Pittsburgh University of Pittsburgh Press, 1952 198 p. 22 cm. $4.00. 1766

Contents. Psychology in the world emergency by J. C. Flanagan. Problems in the Research in military leadership, by F H. Sanford. Problems in the administration and utilization of contract research, by J. W. [illegible]. The uses and limitations of mathematical models, game theory, and systems analysis in planning and problem solution, by J. L. Kennedy Military requirements for the systematic study of psychological variables, by A. W. Melton. Psychological warfare, strategic intelligence, and overseas research in the world emergency, by F W Williams. Matching personnel and jobs, by D. E. Super. Organization and opportunities in service programs of psychological research, by G. Finch.

Note. A collection of eight lectures delivered at the University of Pittsburgh in February 1952. Described in the lectures are research projects and programs of application of psychology to such national problems as the selection of military leaders, the planning of military strategy and the conduct of psychological warfare. Most of the lectures are accompanied by bibliographies.

CURRENT TRENDS IN INDUSTRIAL PSYCHOLOGY By Wayne Dennis and others. Pittsburgh. University of Pittsburgh Press, 1949 198 p. 22 cm. (Current trends in psychology series, University of Pittsburgh Press) $4.00. 1767

Contents: The background of industrial psychology, by W. Dennis. Job requirements, by [illegible]. Organization structure, by C. L. Shartle. Training in [illegible], by G. L. Cissey. Personnel selection, by J. C. Flanagan. Personnel selection, by [illegible]. Employer-management relations, by [illegible] industry by W McGehee. Morale and motivation in industry by D. Katz. Industrial [illegible] Baxter. Morale and motivation in industry by H. C. Taylor psychology and the community by H. C. Taylor.

Note. A collection of papers presented at symposium held at the University of Pittsburgh in February 1949. As indicated by the title, the general topic for discussion is the part which psychology and psychologists are playing and should play in the industrial field. The authors are leaders in their fields, and include the head of the Psychology Department, University of Pittsburgh, and the director of the W. E. Upjohn Institute for Community Research.

FRYER, DOUGLAS HENRY AND EDWIN R. HENRY editors

Handbook of applied psychology Contributors Theodora M. Abel (and others) New York Rinehart & Company Inc., 1950 Two vol. 842 p. illus. 26 cm. $15.00 1768

Contents (abridged) Part one: Group living. Individual efficiency. The individual adjusting to his environment. Techniques of personnel psychology. Fields of personnel psychology selection and training. Industrial psychology. Transportation. Business psychology. Part two: Educational psychology—techniques of educational adjustment. Fields of educational psychology. Clinical psychology. Fields of clinical psychology. Penology. Consulting psychology. The professions—contributions of applied psychology. The arts—contributions of applied psychology. Administration of psychological services. The professional psychologist. A selected and classified bibliography in applied psychology. Index of contributors. Subject index.

Note: A work composed of 115 papers especially written for it by outstanding American psychologists. It was prepared under the auspices of the American Association for Applied Psychology. The papers are signed with the names of the contributors. Each one is a concise statement of the aspect of applied psychology named in its title and concludes with a selected bibliography. The main bibliography although a selected one, also runs to 30 closely printed pages.

GRAY JOHN STANLEY

Psychology in industry New York Mc Graw Hill Book Company Inc. 1952 401 p illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting editor) $5.00 1769

Contents: Introduction—Basic concepts in human engineering. Work analysis. Worker analysis. Job training. Methods of work. Wages and merit rating. Wages and job evaluation. Nutrition and rest. Safety. Monotony and boredom. Lighting and ventilation. Age of workers, by K. Gordon. The worker's morale, by K. Gordon. Employee adjustment, by K. Gordon. Appendix. Name index. Subject index.

Note: The inclusion of a chapter on nutrition and rest is indicative of the scope of this practical book. The author states [illegible] any factor which affects the production efforts of workmen is appropriately classified as industrial psychology [illegible] The level of treatment is introductory but the reader needs a basic knowledge of psychology and also some acquaintance with industry. Although organized so that it may be used as a college text, the book is equally suitable as a practical introduction to the field for men already employed in personnel work and time study in industry. Literature on which statements in the text are based is cited in footnotes.

GRAY JOHN STANLEY editor

Psychology in use a textbook in applied psychology Second edition. New York American Book Company 1951 550 p. 23 cm. (American psychology series Henry E Garrett, general editor) $5.00 1770

Contents: Principles of psychology available for use, by K. C. Gordon and M. Kogler. Psychology in determining vocational aptitudes, by K. C. Gordon. Psychology in home life, by A. S. Jensen. Psychology in education, by J. R. Stroud. Psychology in industry by E. E. Ghiselli. Psychology in business, by H. W. Hepner. Psychology in law and in criminology by C. A. Whitmer and G. L. Gierkel. Psychology in warfare, by T. W. Harrell. Psychology in clinical practice, by C. R. Rogers and M. L. Blatz. Psychology in medicine, by T. Hunt. The psychology of influencing other people, by R. Kagner. Psychology in social reform, by G. W. Hartmann. Author index. Subject index.

Note. (1951) A college textbook which affords a view of the main fields of applied psychology. The authors of the various chapters are prominent contemporary psychologists. Generally speaking, each author outlines applications of psychology in his field, describes particular examples, and refers to related professional literature. In comparison to the first edition published in 1941 revisions appear in most of the chapters, but few of the changes are drastic. The chapter on psychology in warfare is a new addition.

HARRELL, THOMAS WILLARD

Industrial psychology New York Rinehart & Company, Inc., 1950 462 p 23 cm. $4.50. 1771

Contents (abridged) Occupational information. Individual differences. Individual differences and their evaluation. Selection by interview and application blank. Personnel tests. Human engineering. Improving work methods. Training. Fatigue and conditions of work. Accident prevention. Human relations: Motivation. Attitudes and job satisfaction. Mental hygiene and personnel counseling. Psychological aspects of labor relations. Supervision. Name index. Subject index.

Note. An introductory but substantial text on the contributions that psychology can make in industry "to analyze the problems of labor management cooperation and to develop techniques which will facilitate such cooperation." The author firmly believes that psychology has an important place in developing scientific methods for the study of human behavior in industry. However he does not disguise the fact that industrial psychology is not yet a fully developed science with universally accepted principles and methods. Many case studies are used to illustrate methods and indicate results. Extensive bibliographies follow the several chapters. The author is Associate Professor of Psychology in the University of Illinois.

LAIRD, DONALD ANDERSON AND ELEANOR C. LAIRD

Practical business psychology New York The Gregg Publishing Company 1951 551 p. illus. 23 cm. $6.00 1772

Contents (abridged) Part I, A general view of how psychology is used. Part II, Personal efficiency: Ability to concentrate. More efficient reading and seeing. Making memory more efficient. Efficient learning and training. Planning and organizing work. Matching jobs and people. Part III, Human relations and morale. The day of modern human relations. Motivation for morale. Morale from self esteem. Hostility or friendliness? Part IV Personality and emotional health: "Nervous tension" and psychosomatics. Emotional maturity in business. How to conduct a personality interview. Part [illegible] Personal leadership and group co-operation. The development of personal leadership. The strategies of impelling leadership. Imitation, suggestibility and role playing in leadership. Group cooperation in business. Understanding group conflicts. Index.

Note: Before writing this book a survey of business education and industrial training directors was made by the authors to establish what the book should contain and how the contents should be presented. The result is that practical business methods are emphasized, while psychological research methods and laboratory achievements are treated only briefly. A brief statement, "To get the most from this book [illegible] presents helpful plans for students to follow in their chapter-by-chapter study of the volume. The authors have assumed that readers have not taken courses in introductory psychology but that they have some acquaintance with business methods and procedures.

MAIER, NORMAN RAYMOND FREDERICK

Principles of human relations applications to management. New York John Wiley & Sons, Inc. 1952 474 p illus. 24 cm. $6.00. 1773

Contents Introduction. A human relations training program. Discussion methods. Role playing. Role playing in large groups. Reactions to human relations training. Group-decision procedure. Democratic supervision in action—case studies. The quality of group decisions as influenced by the discussion leader. Transcriptions of two problem-solving conferences. The supervisor's dealings with individuals. Nondirective counseling. Bibliography. Index.

Note: Although this is essentially a book on the application of psychology to common management problems in industry psychological principles are subordinate to descriptions and analyses of practical techniques. The main theme of the book is the importance of the principle of participation on the part of both management and employees in arriving at decisions that affect personnel relations. Discussion procedures in which employees with grievances participate are described in detail, and are pointed up with full accounts of actual cases. There are 80 pages of case studies and some scores of pages of transcriptions of interviews and conferences. The new techniques suggested have been tested in industry by the author, who is Professor of Psychology in the University of Michigan.

NATIONAL RESEARCH COUNCIL COMMITTEE ON UNDERSEA WARFARE. PANEL ON PSYCHOLOGY AND PHYSIOLOGY

A survey report on human factors in undersea warfare. Washington, D C. The National Research Council Committee on Undersea Warfare, 1949 541 p illus. 26 cm. 1774

Contents: Part I, General visual problems: How we see—a summary of basic principles, by A. Chapanis. The night lookout, by C. H. Wedell and L. A. Riggs. The design and use of optical instruments, by L. A. Riggs. Printed materials, maps, and charts, by M. M. Crook. The design and use of instruments, by W. E. Kappauf. Visibility on radar scopes, by S. B. Williams. Visual display of complex information, by J. W. Gebhard. Part II, Design and arrangement of operating equipment. The design of controls, by D. R. Craig and D. G. Ellson. Human factors in panel design, by E. Rubin. Arrangement of equipment, by R. C. Channell and others. Part III, Auditory problems: Auditory signals, by W. R. Garner. Auditory discrimination in sonar operation, by W. D. Neff and W. R. Thurlow. Part IV, Communication. Voice communication—personnel and phraseology, by M. H. Abrams. Voice communications—effects of masking and distortion, by G. A. Miller. Visual communication, by W. S. Verplanck. Part V, Habitability. A. Physiological factors: Temperature and humidity in relation to the thermal interchange between the human body and the environment, by L. P. Herrington and J. D. Hardy with foreword on the habitability of submarines—a review of the physiological problems, by E. F. DuBois. Diet, by J. Brozek and O. Mickelsen. The sleep-wakefulness cycle of submarine personnel, by N. Kleitman. Part VI, Habitability. B. Psychological factors: Relation of noise to the habitability of submarines, by F. K. Berrien. Lighting and color by M. A. Tinker. Motion sickness—its psychophysiological aspects, by J. E. Barron. Motion sickness—physical considerations regarding its etiology, by M. F. Morales. Part VII, Emotional stability and adjustment. Psychophysiology of stress, by C. W. Darrow and C. E. Henry. Psychological causes and results of stress, by E. A. Haggard. Morale and leadership, by R. L. French. Part VIII, Selection and training. Selection and training, by L. J. Cronbach. Part IX, Personnel resources: Personnel resources for research in applied experimental psychology, by J. L. Kennedy and R. C. Benny. Name index. Subject index.

Note: A collection of original papers written by specialists in response to a request to provide "first, a concise, but comprehensive, account of the present status of basic and applied research" and second "to formulate recommendations for future research." The papers are accompanied by bibliographies. Three of the papers listed in the above table of contents are not included in the volume itself but are available only from the Chief of Naval Research of the Navy and are loaned only to persons authorized to receive classified documents.

THORNDIKE, ROBERT LADD

Personnel selection, test and measurement techniques. New York John Wiley & Sons, Inc. 1949 358 p 22 cm. $4 50 1775

Contents: Introduction. Job analysis. Test selection and invention. The estimation of reliability. The estimation of test validity—criteria of proficiency. The estimation of test validity—statistics of validity. Combining tests into a battery. The analysis and selection of test items. The administration of a testing program. Administrative problems in using the results of an aptitude testing program. The personnel selection program and the public. Appendixes. Index.

Note: Considerable original work is embodied in this book. The chief base for it was four years of study and organization of a program for the selection of crews for air craft of the United States Army Air Force during World War II. However, the approach has been generalized and adapted to make the findings and methods applicable to personnel selection programs in civilian enterprises. Statistical techniques play a considerable part in the methods described; therefore the reader needs an understanding of basic statistical principles.

THURSTONE, LOUIS LEON editor

Applications of psychology. Essays to honor Walter V Bingham. New York Harper & Brothers, 1952 209 p 21 cm. $3.00. 1776

Contents: A look across the years 1920 to 1950, by L. W. Ferguson. Growth of talent, by L. L. Thurstone. Application of psychological principles and procedures to the military problem, by J. C. Flanagan. Use of attitude surveys in personnel practice, by B. V. Moore. Validation of measures of interests and temperament, by J. P. Guilford. Should this student be at Harvard? by F. L. Wells. Twenty-year follow up of medical interests, by E. K. Strong, Jr. A tool for selection that has stood the test of time, by M. A. Bills. Identification and selection of teachers, by R. A. Lee. Professional use of the clinical method in employee selection, by G. U. Cleeton. A national scholarship program—methods, problems, results, by J. M. Stalnaker.

Note: A collection of original essays written by outstanding psychologists, all of whom were students or associates of Walter V Bingham, a pioneer and leader in the field of applied psychology.

EDUCATIONAL PSYCHOLOGY

COLE, LAWRENCE EDWIN, AND WILLIAM F BRUCE

Educational psychology Yonkers-on-Hudson, New York World Book Company 1950. 768 p. illus. 23 cm. $5.00. 1777

Contents (abridged): Part one, Life styles in their social settings: The study of educational psychology. The human person—his style of life. Part two, The development of personality—analysis and integration: The physical growth of the individual. The development of effective intelligence. The emotions—energies of man. Motives—from drives to purposes. Growth and development in the American culture. The development of the self into a mature person. Part three, The psychology of learning in a free society: Learning by conditioning responses. Learning by trial and error. Learning by insight—Gestalt psychology. The psychology of thinking—a new interpretation of learning. The creative imagination—the expressive person. Part four, Putting psychology to work in the schools: The teacher's task and the teacher. Studying and guiding development. Appraising development and learning—measurement in education. Bibliography. Index of names. Index of subject matter.

Note: A broad view of educational psychology is afforded in this introductory text. It is not limited to the psychology of the learning process but instead includes discussions of pertinent topics in social psychology and the psychology of personality. The organization of the book is somewhat unconventional also. For instance, there are passages quoted passages in which social backgrounds are dramatically presented. The authors' style is easy to read even in those parts of the book devoted to the technical aspects. Lists of "Further reading" for the students are included in the chapters and at the end of the book there is an extensive general bibliography.

DEESE, JAMES

The psychology of learning. New York. McGraw Hill Book Company, Inc., 1952. 398 p. illus. 24 cm. (McGraw-Hill publications in psychology, Clifford T Morgan, consulting editor) $5.50. 1778

Contents: Introduction. Reinforcement and learning. The nature of extinction. Stimuli in learning and the process of discrimination. Motivation and learning. Negative reinforcement and punishment. Factors affecting [illegible]. Serial learning and the chaining of responses. Transfer of training. The nature of complex learning. Retention. Forgetting. [illegible]. Efficiency in human learning. Thinking and problem solving. Learning and the nature of the learner. Emotion and conflict. Physiological problems in learning. Current theoretical problems. References. Author index. Subject index.

Note: A textbook designed for college use. It is intended for students who have completed at least a course in basic psychology. It provides both a survey of the current status of the psychology of learning, and the accumulated knowledge and the unsolved problems. Significant experimental studies are described and evaluated and information included in the original publications. The bibliography lists approximately 900 literature references. The author is Assistant Professor of Psychology in Johns Hopkins University.

GUTHRIE, EDWIN RAY

The psychology of learning. Revised edition. New York Harper & Brothers, 1952. 310 p. illus. 21 cm. (Under the editorship of Gardner Murphy) $3.00. 1779

Contents: Introduction. Psychological explanation. The conditioned response. Time factors in conditioning. Inhibitory conditioning.

ing. Generalization. The effects of repetition. Emotional reinforcement. Forgetting. Habits. Breaking habits. Reward and punishment. Skill. Trial and error in learning. Learning with and without intention. Perception and thought. Pluralistic theories of learning. Hull's reinforcement theory. Skinner's system of behavior. Cats in puzzle box. Conclusion. References. Index.

Note: (1241) Mainly this noted work is presentation of the association theory of learning, but related theories are described for comparison. The work is not textbook although it is often used as supplementary reading in college courses. The first edition was published in 1935. Four new chapters have been added in this edition to cover the main developments in learning theory in the past two decades. Although written for persons with professional interests in the psychology of learning, the style is not forbiddingly technical; hence the book is suitable for any educated person who has an interest in the subject.

GUTHRIE, EDWIN RAY, AND FRANCIS F POWERS

Educational psychology New York The Ronald Press Company 1950 530 p illus. 21 cm. (A volume in the Douglass series in education, edited by Harl R. Douglass) $4.25 1780

Contents (abridged) Part I, Introduction: The challenge of modern education to the psychologist. The definition and meaning of educational psychology Part II, Foundations of learning: Brightness and dullness. Perception and attention. Emotion and motivation. Physical basis of behavior and learning. Part III, Learning and its measurement: Viewpoints on the learning process. How children learn. How teaching guides learning. Psychology of audio-visual learning and teaching. Individual differences. Evaluating learning. Part IV Improving learning habits. Part Psychology of school levels, curricula, and methods. Part VI, Social adjustment through learning experiences. Part VII, Personal adjustment through learning experiences: How education affects personality Mental hygiene. Part VIII, Psychological factors in school organization and administration. Psychology of discipline. Psychology of the guidance program. Psychology of extracurricular activities. The improvement of teaching. Selected references. Index.

Note This introductory book on educational psychology is designed for the use of college students ho are preparing for careers in education. The authors have covered not only the standard topics in educational psychology but also certain new areas of the subject, including creative activity and audio-visual learning, the psychological analysis of school levels, of the curriculum, of teaching procedures, and the psychological study of extracurricular activities and school leadership. Each chapter concludes with group of about ten brief, practical questions and selected list of about 20 recent books and articles.

MCGEOCH JOHN ALEXANDER

The psychology of human learning. Second edition revised by Arthur L. Irion. New York Longmans, Green and Co., 1952 596 p illus. 22 cm. $5 00 1781

Contents: Concepts and methods. Some theoretical considerations. Conditioned response learning. Intraserial phenomena. The distribution of practice and reminiscence. Learning as function of motivo-incentive conditions. The law of effect. The role of frequency Transfer of training. Retention and forgetting. Learning as function of the material learned and of certain modes of practice and presentation. Individual differences and learning. Concluding statement. Author index. Subject index.

Note: (1249) A textbook which is designed primarily for college students who are majoring in educational psychology The treatment is advanced and the main emphasis is on theory Long bibliographies are included. The author index of cited publications runs to 10 pages. Very substantial changes have been made in the present edition. These include more attention to animal learning and to its correlation with the current knowledge of human learning.

SKINNER CHARLES EDWARD, editor

Elementary educational psychology Second edition. New York Prentice-Hall, Inc., 1950 592 p. illus. 22 cm. $6.00. 1782

Contents: Part I, Introduction: The nature of educational psychology by J W Charles. The teacher and his task, by F F Powers. Part II, Growth and development: Personality and behavior, by P L. Boynton. Growth and development, by P L. Harriman. Stages in human life: infancy childhood, adolescence, maturity and senescence, by F F Powers. Part III, Mental abilities and individual differences: Intelligence and aptitudes: their nature, development, and measurement, by P A. Witty Individual differences and school adjustments, by J. W Wrightstone. Part IV The learning process and evaluation of learning outcomes: General aspects of learning, by F F Powers. The dynamics of learning, by P L. Harriman. Transfer of training, by P L. Boynton. Perceptual motor and associational learning, by J. W Wrightstone. Reflective thinking and problem-solving, by P L. Harriman. Creative thinking and learning, by P L. Harriman. Psychology of the school subjects, by J. W Wrightstone. Appraising the results of learning, by J W Wrightstone. Part Personality adjustment, and guidance: Emotion and adjustment, by W C. Ryan. Social adjustment and conduct disorders, by W C. Ryan. Adjustment and guidance of the exceptional child, by W C. Ryan. Mental hygiene, by W C. Ryan. The nature and techniques of guidance, by F F Powers. Index of subjects. Index of names.

Note: (1330*) An established introductory text for college students ho are preparing for careers in teaching. Modern ideas and methods are emphasized. The pattern of the book is the same as in the first edition, but the several authors have brought their chapters and the accompanying reference lists up to the date of the revision.

TILTON, JOHN WARREN

An educational psychology of learning. New York The Macmillan Company 1951 248 p. illus. 22 cm. $3.50 1783

Contents: Part I, An introduction to learning theory: The general problem. Explanation in terms of elements? Explanation in terms of prior experience? Explanation in terms of effects? Part II, The learning process: A general description of learning. Learning in relation to problem solving. Learning as related to practice. Learning and adjustment. Part III, The individual learner: The measurement of achievement. Measures of ability to learn. Specialization of ability to learn. "Native" ability to learn. Personality Part IV Some implications for education Education and the psychology of learning. For more efficient learning. Index of names. Subject index.

Note: This work is not textbook or an encyclopedic reference book of the subject, but it rather an original presentation of the nature of the learning process. The author is Professor of Educational Psychology at Yale University

ENGINEERING

GENERAL

Christman Ruth C, editor

Industrial science present and future. A collection of papers presented at the installation of the Section on Industrial Science of the AAAS at the Philadelphia meeting on December 28–30 1951 Arranged by Allen T Bonnell. Edited by Ruth C Christman. Washington American Association for the Advancement of Science, 1952 152 p. 23 cm. Paper $2 00 1784

Contents. Bridging the gap, by K. R. Webb. Industrial science today The petroleum industry by R. E. Wilson. The steel industry by H. G. Batcheller The communications industry by J B. Fisk. The chemical industry by N A. Shepard. The pharmaceutical industry by E. H. Volwiler Industrial science tomorrow Horizons in industrial science from the viewpoint of the consultant, by L. M. Gilbreth Horizons in industrial science from the viewpoint of the educator by J. Cresse Horizons in industrial science from the viewpoint of the research institute, by F C. Croxton. Horizons in industrial science from the viewpoint of government, by A. T Waterman. The contributions of industry to scientific education, by C. L Emerson. Industrial science and community health, by C. L. Dunham. The new industry and the community, by E. A. Neary Industrial science and its public relations, by G. K. Pendray

Note. In the papers collected here some of the history achievements, and problems and the outlook for the future of industrial science are outlined By the term "industrial science, the authors collectively have designated not only research on the part of industry but also such other aspects as industry' relations to scientific education, and relations between government research and industrial research. The papers are addressed to the general public rather than to specialists; however they are of interest to scientists who are concerned with the larger and social aspects of science.

De Vries Louis

German English technical and engineering dictionary New York McGraw Hill Book Company Inc. 1950 928 p. 23 cm. $20 00 1785

Note. The English equivalents of approximately 135,000 German scientific terms are given in this reference book A considerable number of the terms are derived from private glossaries compiled by professional translators and research workers from the recent literature Many of these have not appeared in other dictionaries. A feature that adds much to the book usefulness is the inclusion of a high number of combinations and variants The main list is supplemented by a 34-page list of abbreviations with their German meanings and English equivalents.

Eshbach Ovid Wallace

Handbook of engineering fundamentals. Prepared by a staff of specialists under the editorship of Ovid W Eshbach Second edition. New York John Wiley & Sons Inc., 1952 1394 p. illus. 22 cm. $10.00 1786

Contents (abridged) Mathematical and physical tables. Mathematics. Physical units and standards Mechanics of rigid bodies. Mechanics of deformable bodies. Mechanics of incompressible fluids. Aerodynamics. Engineering thermodynamics Electricity and magnetism. Radiation, light, and acoustics. Chemistry Metallic materials. Non metallic materials. Engineering law Index

Note (1260) A comprehensive handbook of fundamental theories, data, and formulas essential in engineering practice It is designed for use by engineers in all branches of engineering. The contents given above are the titles of the sections. In most instances sections are composed of several subsections, each one of which is the work of an authority whose name is given. Bibliographies accompany the subsections, but the index is all inclusive. The first edition appeared in 1936. In the new edition some of the sections have been reorganized and all of them revised to some extent. A few sections have been completely rewritten.

Finch, James Kip

Engineering and Western civilization. New York McGraw Hill Book Company, Inc, 1951 397 p. illus. 24 cm. $5.50. 1787

Contents (abridged) Ancient engineering. The Middle Ages and the Renaissance. The age of French leadership. Early British engineering. The Victorian era. American engineering in the 19th century The new engineering. Modern engineering. Engineering and Western civilization. Engineering and economic change. Engineering and the worker. The distribution of technological gains. Technological change and capital goods. Engineering and research. Decisions. Bibliography Index.

Note In this outline history of engineering Dr. Finch states as his thesis that engineering and technological advances have exercised greater influence on the growth of modern institutions than have philosophic, economic, or social forces. Except for a brief survey of the growth of engineering from ancient times to the Victorian era, the author deals entirely with the part played by the engineer in the evolution of the United States of America. The book is intended primarily for use in introductory engineering courses, but it can be recommended also for general reading. It includes a valuable and extensive annotated bibliography

Forbes, Robert James

Man the maker, a history of technology and engineering. New York Henry Schuman, 1950 355 p. illus. 21 cm. $4.00. 1788

Contents Man and nature. The dawn of history (before 3000 B.C.) The great empires of the ancient Near East (3000–600 B.C.). Wisdom of the Greeks and Romans (600 B.C.–A.D. 400). Technology and theology (a classical heritage (A.D. 400–1000). Technology and [illegible] (A.D. 400–1500). New wine into old bottles (1500–1750). [illegible] age (1750–1830) The conquest of distance (1750–1900). [illegible] electricity (1830–1930) Technology and progress. Bibliography. Index.

Note. This history of technology is rather compactly written but it does touch upon numerous subjects which are not accorded space in larger works. Examples are anesthetics, bicycles, asphalt, and synthetic rubber About half of the space is devoted to the progress of technology before 1750. In the latter part of the book, when the stage really becomes crowded, the author found space for little more than mere catalogues of facts. The development of radio and television, to cite an example, is covered in less than five pages.

Hertz David Bendel

The theory and practice of industrial research. New York McGraw Hill Book Company Inc., 1950 385 p. illus. 23 cm. (McGraw Hill engineering management series, R. T Livingston consulting editor) $5.50. 1789

Contents Introduction. The creative scientist and research problems. Methods of problem solving in research. The method of research. The background of research in industry Research projects and programs. The magnitude of research personnel. Research The organization and administration of research programs and budgeting. Internal relationships in the research [illegible] Formal and informal research reports. Research facilities [illegible] design, research tools, and auxiliary services. Patent policies in research. External relationships of the research department. Bibliography. Index.

Note: The first chapters contain a careful analysis of the nature and general problems of research; then the author turns his attention to the practical organization and administration of research in industry. In both parts he has something worthwhile to say. The work is intended for use as a textbook in courses offered to advanced science and engineering students, but it is of interest to graduate workers in industrial research and corporation executives as well. There is a good bibliography

KEREKES, FRANK AND ROBLEY WINFREY

Report preparation including correspondence and technical writing. Second edition. Ames The Iowa State College Press, 1951. 448 p. illus. 29 cm. $7.50 1790

Contents (abridged) Reports. Planning the investigation and report. Collection of information. Mechanics of style. Format and arrangement. Tabular presentation. Preparation of illustrations. Effective writing. Writing the first draft and revising. Correspondence. Letter reports and short reports. Formal reports. Magazine feature articles and technical papers. Oral presentation of reports and technical papers. Letter of application. Editing, copyreading and proofreading. Appendix. Index.

Note: The authors of this book have taken plenty of room and have produced a full book that will be used not only in instruction but after graduation as a reference book. Numerous full-size examples of charts, graphs, business letters, employment applications, sample title pages and other illustrations of forms much needed by scientists and engineers in their work after graduation are included. The accompanying discussions are factual and practical.

LEIDECKER, KURT FRIEDRICH, editor

German English technical dictionary of aeronautics — rocketry — space navigation — atomic physics — higher mathematics — jet engines — turbines — hydraulics — petroleum industry — civil and mechanical engineering — ballistics — electronics — radio — radar — aerophotography — television — infrared research — communication — meteorology — topography — aeromedicine. Based on data compiled by the U S Air Force. New York S. F Vanni 1951 2 v 28 cm. $35.00. 1791

Note: The terms for this dictionary and the English equivalents were compiled by the Dictionary Unit which was first associated with the United States Strategic Air Forces in Europe and later was transferred to the Air Documents Research Center in Dayton, Ohio. Definitions are short, and no examples of usage are included. The work's merit lies in the inclusion of many terms in aeronautics and related fields which are not to be found in other dictionaries. Another edition of the work was previously made available to government agencies and to contractors of the United States Armed Forces, but this is the first edition to be offered generally

McCLOY, SHELBY T

French inventions of the eighteenth century Lexington University of Kentucky Press, 1952 212 p. illus. 25 cm. $4.50 1792

Contents: The balloon. Steam transportation. The telegraph. Lighting. Papermaking. Chemical inventions. Textiles. Automata. Other mechanical devices. Military inventions. Medicine and surgery Patents and encouragement. Conclusion. Bibliography Index.

Note: A readable, well-documented survey of French inventive activity during the eighteenth century Although individual inventions are described and illustrated, the main theme is the strong current of activity This is delineated against the social and political background. Inventors are named and there are occasional remarks on individual personalities and fortunes, but the biographical aspect is not emphasized. There are many scholarly footnotes and an extensive bibliography

MEES CHARLES EDWARD KENNETH AND JOHN A. LEERMAKERS

The organization of industrial scientific research. Second edition. New York McGraw-Hill Book Company Inc., 1950 838 p. 24 cm. $6.50 1793

Contents (abridged) Part I, General principles: The development of scientific organization. Industrial research. Part II, Agencies for the conduct of industrial research: Government laboratories. Associations for industrial research. Technological research institutes. Some large industrial laboratories. Part III, The organization and operation of industrial laboratories: The position of the laboratory in a company The direction of research. The transfer of research to production. Reports, patents, publications, and library The financial administration of the laboratory The design of a laboratory for a specific industry Index.

Note: This book deals chiefly with the setting up and administration of research laboratories in industrial corporations. The senior author is associated with the Eastman Kodak Company and has the title Vice-president in Charge of Research. His colleague is Assistant Director of the same company's research laboratory However, they have taken a general view of the subject and have drawn liberally from the experiences of other companies. The work is of interest both to staff members of industrial laboratories and to executive officers of corporations who are concerned with general company policy The first edition, written by the senior author alone, was published in 1920. This edition is largely new even though the viewpoint is the same.

NATIONAL RESEARCH COUNCIL

Industrial research laboratories of the United States including consulting research laboratories. Ninth edition, 1950 Compiled by Myron J Rand, with the assistance of Winnie Frances Yount, Roy F Newkirk [and] Emmit E. Noland. Washington, D C. Published by the National Research Council, National Academy of Sciences, 1950 444 p. 26 cm. (National Research Council. Bulletin. No 120 November 1950) 1794

Contents: List of laboratories. Appendixes: Government laboratories. Universities and colleges offering research services to industry Indexes: Geographical distribution of laboratories. Subject index to research activities.

Note: (1948*) The standard directory for the United States of America of research laboratories maintained by manufacturing and other commercial companies. In compiling it a liberal interpretation of the term "research" has been adopted so as to cover the development of industrial processes, methods, equipment, and production in a broad sense. However laboratories devoted solely to production control and commercial testing are not included. The name of the company and the laboratory address, names of the president, the executive officers in charge of research, the size of the research staff, the field or fields of research activity and the number of volumes in the library if any are given for each entry The number of laboratories listed in the present edition is 2845 which compares with 2443 in the preceding edition. In addition to the descriptions added all those carried over have been revised.

NELSON J RALEIGH

Writing the technical report. Third edition. New York McGraw Hill Book Company, Inc. 1952 356 p. illus. 24 cm. $4.50. 1795

Contents (abridged) Part I, The design of the report. Part II, Some suggestions as to the form and style of the report. Part III, The criticism of the report. Part IV Summary of basic principles. Part V Manual for class use. Index

Note In this text for both practicing and student engineers emphasis is placed on the basic principles and procedures which should be followed in preparing technical reports, rather than on the form of specific types of report. Thus, although numerous sample reports are included, the book is not intended to serve as a form or style manual. The major changes in this edition are found in the later part of the volume, where the basic principles previously discussed at length are now summarized and where an outlined course in report writing has been added.

OGBURN WILLIAM FIELDING editor

Technology and international relations. Chicago The University of Chicago Press, 1949 201 p. illus. 23 cm. $4.00 1796

Contents: Introductory ideas on inventions and the state, by W F Ogburn. The process of adjustment to new inventions, by W F Ogburn. Technology and the growth of political areas, by H. Hart. The steam and steel complex and international relations, by A. R. Usher. Aviation and international relations, by W F Ogburn. Atomic energy and international relations, by W T. R. Fox. The mass-communications inventions and international relations, by R. Leigh. New techniques of war and national policies, by B. Brodie. Modern technology and the world order by Q. Wright. Index.

Note: The lectures delivered at the twenty-fourth Institute of the Norman Wait Harris Memorial Foundation of the University of Chicago are collected in this volume together with an introduction by the editor. The main theme is the effects of technology or clusters of inventions, upon international relations. The portents of the atomic bomb underlie much of the discussion. The lectures were addressed to laymen, and the book is worthwhile reading for almost any educated reader interested in the social impact of science and technology

ROBB, LOUIS ADAMS

Engineers' dictionary, Spanish English and English Spanish. Second edition. New York John Wiley & Sons, Inc. 1949 664 p. 22 cm. $12.50 1797

Note: (1367) In its second edition this useful dictionary has been considerably enlarged. Radio and television terms are now included, and larger branches of engineering, such as civil, mechanical, and mining, are given more thorough coverage. As in the earlier edition, terms whose usage is more or less confined to a single Latin-American country are identified with a symbol which designates the country In contrast to some technical dictionaries, this one is not padded out with terms from the general literary language but is confined to engineering terms and terms closely related to fields of science and technology

ROSSNAGEL W E

Handbook of rigging. New York McGraw Hill Book Company Inc. 1950 321 p. illus. 24 cm. $6.00 1798

Contents. Fundamentals. Fiber rope. Wire rope. Hoisting chains and hooks. Slings. Wood for structural purposes. Planks for scaffolds. Testing scaffold planks. Swinging and suspended scaffolds. Scaffolding. Painting and repairing steel stacks. Life belts, boatswain's chairs, and life nets. Ladders. Strength calculations for timbers. Strength calculations for metal beams. Cranes, hoists, and derricks. Chain hoists. Jacks, rollers, and skids. Hoist signals. Accident prevention. Caring for the injured. Reference codes, laws, and standards. Appendix: Handy reference tables. Index.

Note: An important book for all who are concerned with scaffolding, hoisting machinery and related equipment. The material is presented from the viewpoint of those who will make practical use of it, such as machine operators, foremen, and safety engineers. There is a generous number of illustrations, and the chapter of "reference codes, laws, and standards" available from state governments and other agencies concerned with safety in the United States of America is a useful feature. The author is Safety Engineer with the Consolidated Edison Company of New York.

ZIMMERMAN OSWALD THEODORE, AND IRVIN LAVINE

Scientific and technical abbreviations, signs and symbols. Second edition. Dover N H. Industrial Research Service, 1949 541 p. illus. 22 cm. $8 00 1799

Contents: General list of abbreviations and symbols. Greek alphabet, numerical prefixes, metric abbreviations, mathematics, and statistics. Chemistry chemical engineering, physics, thermodynamics, heat flow humidity and radiation. Mechanics, hydraulics, acoustics, and illumination. Mechanical drawings, materials of construction, and shop terms. Electricity electronics, and magnetism. Mapping. Railway Aeronautics and aviation. Communications. Meteorology Military Medicine, botany and zoology Commerce. Astronomy Latin expressions, states, punctuation, and proof reading. Technical journals. Index.

Note. (1334*) A reference handbook of standard and accepted abbreviations and symbols. The first section consists of about 7,000 terms alphabetically arranged and followed by their recommended abbreviations or signs. The sections devoted to special fields contain standard abbreviations and symbols such as those adopted by the American Standards Association and, in addition, other abbreviations commonly employed in the particular field. The scope and even the format of the book are essentially unchanged in this second edition. There has been some rearrangement of material. Some of the tables have been expanded and seven new ones added.

MATHEMATICS FOR ENGINEERS

ADAMS DOUGLAS PAYNE, editor and compiler

An index of nomograms. New York. John Wiley & Sons, Inc. 1950 174 p 25 cm. $4.00 1800

Contents: Index A, Key words. Index B, Master list: Mathematics. Physics. Chemical engineering and chemistry Electricity electronics, radio. Hydraulics and power Waterworks and sewerage. Oil and gas and by-products. Illumination. Aeronautics. Heating, piping, ventilating, air conditioning, insulation, refrigeration. Building, structures, surveying, soils, cement. Highways, railroads, trucking. Machine design. Machine tools. Welding, foundry sheet metal. Metals. Mining. Paper. Textile. Medicine. Food.

Note: Useful nomograms are published from time to time in technical periodicals, where many of them have been buried because the persons who could have put them to use did not know of them or lacked time to ferret them out. This book locates more than 1700 such nomograms which have appeared in ninety-one scientific and technical periodicals. The index to key words is essentially a title index. The other and main index is a classified one.

BECKENBACH E. F., editor

Construction and applications of conformal maps proceedings of a symposium held on June 22–25 1949 at the Institute for Numerical Analysis of the National Bureau of Standards at the University of California, Los Angeles. Washington, D C. Government Printing Office, 1952 280 p. illus. 27 cm. (United States. National Bureau of Standards. Applied mathematics series, 18) $2.75 1801

Contents. On network methods in conformal mapping and in related problems, by R. v. Mises. Flow patterns and conformal mapping of domains of higher topological structure, by R. Courant. Some industrial applications of conformal mapping, by H. Poritsky. Conformal maps of electric and magnetic fields in transformers and similar apparatus, by O. M. Stuetzer. Conformal mapping applied to electromagnetic field problems, by E. Weber. On the use of conformal mapping in two-dimensional problems of the theory of elasticity, by I. S. Sokolnikoff. Conformal mapping related to torsional rigidity, principal frequency, and electrostatic capacity, by G. Szegö. Fluid dynamics, conformal mapping, and numerical methods, by A. Ferri. The use of conformal mapping in the study of flow phenomena at the free surface of an infinite sea, by E. P. Cooper. An application of conformal mapping to problems in conical supersonic flow, by R. C. F. Bartels and O. Laporte. On the Helmholtz problem of conformal representation, by A. Weinstein. Some generalizations of conformal mapping suggested by gas dynamics, by L. Bers. The use of conformal mapping to determine flows with free streamlines, with examples, by D. M. Young. Conformal mapping in aerodynamics, by I. E. Garrick. On the method of successive conjugates, by I. E. Garrick. On the convergence of Theodorsen's and Garrick's method of conformal mapping, by A. M. Ostrowski. On discrete analogues of Theodorsen's and Garrick's method, by A. M. Ostrowski. A variational method for conformal mapping of variable regions, by S. E. Warschawski. A variational method for simply connected domains, by A. C. Schaeffer and D. C. Spencer. Some remarks on variational methods applicable to multiply connected domains, by M. Schiffer and D. C. Spencer. The theory of kernel functions in conformal mapping, by S. Bergman and M. Schiffer. A new proof of the Riemann mapping theorem, by P. R. Garabedian. The kernel function and the construction of conformal maps, by Z. Nehari. An approximate method for conformal mapping, by L. H. Swinford. On the effective determination of conformal mapping, by M. Shiffman. The difference equation method for solving the Dirichlet problem, by P. C. Rosenbloom. Relaxation methods: conformal transformations as an auxiliary technique, by R. Southwell. Conformal invariants, by L. V. Ahlfors and A. Beurling. On subordination in complex variable theory by E. F. Beckenbach and E. W. Graham. Asymptotic developments at the continuance of boundary conditions, by H. Lewy. Recent contributions of the Monodiffric functions, by R. Isaacs.

Hungarian school to conformal mapping, by G. Szegö. Bibliography of numerical methods in conformal mapping, by W Seidel.

Note: An important collection of papers most of which were originally prepared for presentation at the symposium named in the book's title. As printed here, the original texts are supplemented by figures and literature references.

DULL RAYMOND WILLIAM

Mathematics for engineers. Revised and edited by Richard Dull. Third edition. New York. McGraw Hill Book Company, Inc., 1951 822 p. illus. 21 cm. $7.50 1802

Contents (abridged) Functions and graphs and the statement of problems in the form of equations. Linear or first-degree equations. Analytical and graphical solutions. Quadratic or second-degree equations. Explicit functions. Analytical and graphical solutions. Cubic functions. Polynomial functions. Power functions. Progressions. Variables, limits, and indeterminate forms. Exponential functions and their relation to logarithmic functions. Infinite series. Determinants. Permutations and combinations. Geometry and mensuration. Trigonometric functions. Polar coordinates. Vectors. Imaginary and complex numbers. Hyperbolic functions. Simple application of coordinates. Linear equations. Second-degree equations. Conics. The parabola. The circle and the ellipse. The hyperbola. Parametric and polar equations. Empirical equations. Application of coordinates to geometry of three dimensions. Linear equations in three variables. Differential calculus. Differentiation of logarithmic and exponential functions. Curve analysis. Integral calculus. The definite integral. Reduction methods for integration. Summation method. Differential equations. Dimensional and similarity analyses. Index.

Note: (1274) This volume is intended to serve practicing engineers as quick reference manual, or as text for reviewing or expanding their mathematical knowledge. The form and scope of presentation lie between the conciseness of the engineering handbook and the tutorial style of the mathematical textbook. Changes made in this edition include new chapter on differential equations and an expansion of the sections on infinite series, determinants, complex vectors, and trigonometric functions.

GRINTER, LINTON ELIAS editor

Numerical methods of analysis in engineering (successive corrections) A publication resulting from a symposium held at Illinois Institute of Technology, Chicago Illinois, arranged and edited by L. E. Grinter New York The Macmillan Company 1949 207 p. illus. 24 cm. $5.80. 1803

Contents: I, Numerical methods based upon physical concepts Analysis of continuous frames by distributing fixed-end moments, by H. Cross. Statistical state of stress studied by grid analysis, by L. E. Grinter. Appendix—Matched beam solution by grid analogy, by A. J. Fyfe II, Numerical solutions of equations for state of stress: Numerical solutions of boundary value problems by relaxation methods, by F S. Shaw The quest for accuracy in computations using finite differences, by R. V Southwell. A new approach to the numerical solution of Laplace's equation, by M. M. Frocht. III, Applications of numerical methods to heat transfer: Numerical solutions for thermal systems, by L. M. K. Boelter and M. Tribus. Two problems in building heating solved numerically by G. M. Dusinberre. Appendix—Temperature distribution through ground, by J. D. Bethel and Y S. Touloukian. IV Surveys and bibliographies of numerical methods. Successive corrections—a pattern of thought, by F. Baron. Numerical methods of analysis of bars, plates and elastic bodies, by N. M. Newmark. A survey of the approximate solution of two-dimensional physical problems by variational methods and finite difference procedures, by T J. Higgins. Author index. Subject index.

Note: The first paper in this volume, written by Hardy Cross and reprinted here from the *Proceedings* of the American Society of Civil Engineers, was the starting point for extensive investigation of the use of numerical methods of analysis in arriving at satisfactory approximations in engineering problems that could not be solved exactly. Most of the remaining papers are not reprints but are published here for the first time. They are of interest to graduate students and to graduates engaged in research and engineering design. Substantial bibliographies accompany the papers.

KULMANN C ALBERT

Nomographic charts. New York McGraw-Hill Book Company Inc., 1951 244 p. 26 cm. $7 00. 1804

Contents (abridged) Group I, Function scales Fifth power and root. 1/2 and 1/3 powers. 1 7/16 power. Reciprocals. Group II, General charts: Reciprocals of reciprocal sums. Present value of annuity Area of isosceles trapezoids. Group III, Hydraulics charts: Head and velocity. Suppressed weir discharge. Submerged weir discharge. Orifice discharge. Pipe flow and loss. Pressure wave velocity Pipe or tank volumes. Jet diameter and theoretical water horsepower. Pump size and horsepower. Rainfall runoff. Group IV, Mechanics charts: Column loading. Compression springs. Belt design. Torsional moment. Pile loading. Group Thermodynamics charts Orifice steam flow Heat loss in flue gases. Boiler efficiency Group VI, Electrical charts: Voltage drop in conductors. Power factor and total power Equivalent spacing. Capacitance and susceptance. Surge impedance. Voltage-characteristics evaluation. Vector equivalents. Index.

Note: In this book the author has assembled 92 charts of fairly general utility in engineering which he has found useful in his own work over period of years. In general the arrangement of the book places the chart on the right-hand page and the discussion of it on the facing left-hand page, thus facilitating use.

OLDENBURGER, RUFUS

Mathematical engineering analysis. New York The Macmillan Company, 1950 426 p. illus. 24 cm. $8.00 1805

Contents (abridged) Fundamentals of the mechanics of particles and rigid bodies. Applications and further development of the theory of the mechanics of rigid bodies. Fundamentals of electricity and magnetism. Electric systems. Electromagnetic fields. First law of thermodynamics. Second law of thermodynamics. Heat transfer. Fundamental theory of elasticity Elasticity for one and two dimensions. Elasticity in three dimensions. Fundamental fluid theory Compressible fluids. Aerodynamics.

Note: Not text in mathematics but one in utilizing mathematics in the solution of research problems in engineering. Its purpose is to show advanced engineering and science students who are preparing for industrial research how to set up physical problems so that they can be solved mathematically The author has assumed that his readers will have knowledge of advanced calculus. Scores of specific engineering examples are used in the exposition. These have such titles as: Automobile with shock absorbers and elastic tires, "Rocket moving in two-dimensional space, "Diesel engine driving marine propeller through long shaft, and "Flow past an airplane wing.

SALVADORI MARIO GEORGE

Numerical methods in engineering. With a collection of problems by Melvin L. Baron. New York Prentice-Hall, Inc., 1952 258 p. illus 21 cm. (Prentice-Hall civil engineering and engineering mechanics series N M. Newmark, editor) $7 15 1806

Contents The practical solution of algebraic and transcendental equations Finite differences and their applications. The numerical integration of initial value problems. The numerical integration of ordinary boundary value problems. The numerical solution of partial differential equations. Index.

Note: A useful introduction which is designed both for college students and for graduate engineers. The numerical methods described are especially adapted to use on electric calculating machines of the desk type and on slide rules. The book contains concise but clear explanations of many useful numerical methods, such as Gauss' elimination scheme, Cholesky's matrix method, the relaxation method, the trapezoidal rule for numerical integration, Fox's methods for second order linear equations, and Simpson's one-third rule. The author is Associate Professor of Civil Engineering in Columbia University

WIENER, NORBERT

Extrapolation interpolation, and smoothing of stationary time series with engineering applications. New York Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1949 163 p. illus. 24 cm. $4.00 1807

Contents: Introduction. Résumé of fundamental mathematical notions. The linear predictor for single time series. The linear filter for single time series. The linear predictor and filter for multiple

time series. Miscellaneous problems encompassed by the technique of this book. Appendixes: Table of the Laguerre functions. The Wiener RMS (root mean square) error criterion in filter design and prediction, by N. Levinson. A heuristic exposition of Wiener's mathematical theory of prediction and filtering, by N. Levinson. Index.

Note. A treatise which has primary applications in communications engineering but applies also to the design of certain types of servomechanisms and other systems in which the mathematics of probability must be taken into account in predicting performance. The methods discussed can be applied to problems with the following characteristics (to use the words of the author) "the existence of a linear problem, invariant under the translation group, which is not capable of an exact solution, but in which a measure of the failure of an approximate solution may be given as the mean of the square of the modulus of an expression known to be linear in terms of the function upon which we are operating." The exposition is largely in mathematical terminology and is intended for such groups as graduate engineers who are familiar with Fourier series and related mathematical concepts.

WYLIE CLARENCE RAYMOND JR.
Advanced engineering mathematics. New York McGraw Hill Book Company Inc., 1951 640 p. illus 24 cm. $7 50 1808

Contents. Ordinary differential equations of the first order. Linear differential equations with constant coefficients. Simultaneous linear differential equations. Mechanical and electrical circuits. Fourier series and integrals. The Laplace transformation. Partial differential equations. Bessel functions. Analytic functions of a complex variable. Integration in the complex plane. Infinite series in the complex plane. The theory of residues. Conformal mapping. Analytic functions and field mechanics. Vector analysis. Numerical analysis. Appendix: Selected topics from algebra and calculus. Index.

Note. An engineering college text written by the Chairman of the Department of Mathematics and Astronomy of the University of Utah. The treatment assumes a knowledge of mathematics through elementary calculus. Preliminary mathematics leading up to the material covered in the book is reviewed in the appendix. Numerous worked examples and practice exercises are a feature of the book.

ENGINEERING MODELS

LANGHAAR, HENRY LOUIS
Dimensional analysis and theory of models. New York John Wiley & Sons Inc., 1951 166 p. illus. 23 cm. $4 00 1809

Contents. The nature and the use of dimensions. Principles and illustrations of dimensional analysis. Systematic calculation of dimensionless products. Algebraic theory of dimensional analysis. Similarity and model testing. Dimensional analysis applied to problems of stress and strain. Some applications of dimensional analysis in fluid mechanics. Dimensional analysis applied to the theory of heat. Dimensional treatment of problems of electromagnetic theory. Differential equations and similarity. Answers to problems. Index.

Note. Dimensional analysis is a set of mathematical techniques whereby the number of variables in a given problem may be reduced in order to obtain a useful partial solution. It has special application to the design and predictions of performance of full-scale machines from data obtained in experiments with small models. The book also contains discussions of applications of dimensional analysis to fields of engineering in which it is not practical or customary to use models in design work. The author is Professor of Theoretical and Applied Mechanics at the University of Illinois.

MURPHY GLENN
Similitude in engineering. New York The Ronald Press Company 1950 302 p. illus. 24 cm. $7.00 1810

Contents (abridged). Part I, Theory of similitude and its application to models: Observations and measurements. Dimensional analysis. Development of prediction equations. Theory of models. Structural models. Part II, Distorted models: Analyses. Distorted structural models. Fluid flow models. Thermal models. Electrical and magnetic models. Acoustical and illumination models. Applications of model theory to chemical engineering. Part III, Dissimilar models: Analogies from second-order ordinary differential equations. Analogies from second-order partial differential equations. Analogies from fourth-order differential equations. Analogies from four-term algebraic equations. Author index. Subject index. Tables: Criteria for rejection of observations. Average values of properties of a few solids. Average values of properties of a few fluids. Prediction factors for stress and deflection. Values of *K* in Flugel formula.

Note. This book deals with the design of engineering models and the interpretation of the results obtained in experiments with them. It is intended for use chiefly as a college textbook, and the chapters conclude with problems to be solved and, in some cases, with outlines of laboratory experiments. Worked problems, some of which require the use of laboratory equipment, are incorporated in the discussions. Familiarity with basic mechanics and with the handling of differential equations has been assumed in the treatment.

APPLIED MECHANICS

ADVANCES IN APPLIED MECHANICS. Edited by Richard von Mises and Theodore von Kármán. Volume II. New York Academic Press, Inc., 1951 233 p illus. 24 cm. $6.50. 1811

Contents: On the statistical theory of isotropic turbulence, by Th. von Kármán and C. C. Lin. The laminar boundary layer in compressible flow, by G. Kuerti. Bending of curved tubes, by R. A. Clark and E. Reissner. Recent developments in inverse and semi-inverse methods in the mechanics of continua, by P. F. Nemenyi. Theory of filtration of liquids in porous media, by P. Y. Polubarinova-Kochina and S. B. Falkovich. Author index. Subject index.

Note. (1143) Volume one of this valuable series was published in 1948. The purpose of the series, like similar periodical surveys, is to aid research workers and scientists in keeping abreast of developments in fields closely allied to their own specialties. Accordingly the treatment is on a professional level, and each paper includes extensive lists of references. In this volume, the 5th paper was originally published in Russian in 1947

BOYD JAMES E., AND PERCY W OTT
Mechanics a textbook for engineers. Third edition. New York McGraw Hill Book Company Inc., 1950 422 p. illus. 24 cm. $5.00 1812

Contents: Fundamental ideas. Concurrent, coplanar forces. Application of forces. Nonconcurrent, coplanar forces. Concurrent forces. Graphical methods. Method of work. Concurrent, noncoplanar forces. Nonconcurrent, noncoplanar forces. Machines and friction. Flexible cables. Center of gravity. Moment of inertia. Kinematics and dynamics. Force and motion. Dynamics of rotation. Momentum. Balancing. Simple harmonic vibration. Moving frames of reference. Some rotary problems. Index.

Note. (1146) An engineering textbook designed for a course of about seven or eight semester hours. The book places emphasis on fundamental principles and includes many examples and problems to encourage the student in the application of the principles. Much of the material has been entirely rewritten for the third edition. New chapters include those on Method of work, Machines and friction, Flexible cables, and Moving frames of reference. The treatment of kinetics has been rearranged and rewritten, with emphasis on orderly analytical methods. Throughout the text new problems have been added, some of them more difficult than the original problems.

FAIRES VIRGIL MORING AND SHERMAN DANIEL CHAMBERS
Analytic mechanics. Third edition. Problems in this edition revised by James Harvey Caddeas. New York The Macmillan Company 1952 540 p. illus. 24 cm. $6.00. 1813

Contents: Resultants and components. Coplanar concurrent forces. Moments and parallel coplanar forces. Non-concurrent, non-parallel coplanar forces. Flexible cords. Friction. Graphical methods. Maximum and minimum forces. Non-coplanar forces. Centroids. Moments of inertia of areas. Moments of inertia of masses. Plane motion. Relative motion. Force systems that produce rectilinear motion of rigid bodies. Curvilinear motion. Rotation and plane motion of rigid bodies. Work, kinetic energy, power. Impulse and momentum. Mechanical vibrations. Balancing rotating elements. Appendixes. Index.

Note. (1150) In this text for college engineering courses the authors have made a special effort to relate basic principles and theories to practical engineering problems. Numerous [illegible] problems of a practical nature are included, and illustrations and [illegible] are freely used to amplify the problems and to further clarify them. This edition has undergone some revision [illegible]. Other changes [illegible], and many new problems have been added.

cludes the addition of a chapter on vibration, short discussions of gyroscopic action and dimensional analysis, and brief historical and biographical sketches.

GEMANT ANDREW

Frictional phenomena. New York Chemical Publishing Co. Inc., 1950. 497 p. illus. 23 cm. $12 00 1814

Contents (abridged) Part A, Frictional processes in general: Review of the concept of friction in physics and engineering. Outline of the mathematical treatment of frictional processes. Part B, Frictional processes in gases: Theory and experimental facts. Absorption of sound waves and of supersonics. Part C, Frictional processes in liquids: Structural viscosity. The flow of fluids. Applications of liquid viscosity to electrical insulating liquids, particularly in high-voltage cables. Lubrication. Part D, Frictional processes in solids: The plastic flow of solids. Correlation between elastic moduli and viscosity of liquids and plastics. Engineering applications of the plastic flow of solids. Internal friction in solids. Reduction of vibrations by use of materials of high damping capacity. Stress-dependent plastic resistance and damping capacity of alloys. External friction of solids. Part E, Problems with solutions. Index.

Note: Essentially this is a monograph on the physics of frictional phenomena, but examples of engineering applications are introduced frequently. Many topics are discussed rather briefly. For example, the chapter on lubrication is only 15 pages long, but a bibliography of 36 references to books and papers is appended to it. The treatment is on a graduate level. The book is of interest in many fields of science and industry. The author is Staff Physicist in the Research Department of the Detroit Edison Company.

GIRVIN, HARVEY FRANK

Applied mechanics. Second edition. Scranton Pa. International Textbook Company 1949 417 p. illus 24 cm. (International textbooks in civil engineering, Benjamin A. Whisler consulting editor) $5 50 1815

Contents (abridged) Fundamental conceptions. Coplanar, concurrent force systems. Coplanar parallel force systems. Coplanar non-concurrent force systems by mathematical methods. Non-coplanar force systems by graphical methods. Flexible cables. Friction. Centroids and centers of gravity. Kinematics of a particle. Kinematics of a rigid body. Rectilinear translation of a rigid body. Curvilinear motion. Rotation. Work, energy and power. Plane motion of a rigid body. Impulse and momentum. Index.

Note (1191a) A successful textbook for engineering college courses. Both mathematical and graphical methods of problem solving are covered. Since numerous worked examples are included in the text, the book has some usefulness for study outside organized courses. No major changes were made in preparing this edition but numerous minor additions and rearrangements were made. The number of problems to be worked by the student has been greatly extended. The type for the whole book was reset. The new format is a considerable improvement over that of the first edition.

GREEN HENRY

Industrial rheology and rheological structures. New York John Wiley & Sons Inc., 1949 311 p illus. 22 cm. $6.50 1816

Contents (abridged) Part I, A rheological system. Part II, The system applied to laboratory measurements. Part III, The particle—the basis of rheological structure. Part IV Particle groups rheological structures. Appendixes Literature cited Glossary Author index. Subject index.

Note: In this work the author describes a system used in his own laboratory that is based on use of a multipoint consistency curve and is especially suited to practical use in industry. The system is explained and is compared with other systems. Its practical applications together with the mathematical computations involved are covered thoroughly. The work is addressed chiefly to technical personnel in industry who are concerned with processes where rheology of product is an important consideration.

MERIAM J L

Mechanics part I, Statics part II, Dynamics. New York John Wiley & Sons, Inc. 1952 2 v illus. 24 cm. Part I, $4.00 part II, $4.00 1817

Contents: Part I, Statics: Principles of mechanics. Force systems. Equilibrium. Structures. Distributed forces. Beams. Friction. Virtual work. Index. Part II, Dynamics: Kinematics. Principles of kinetics. Force, mass, and acceleration. Work and energy. Impulse and momentum. Periodic motion. Appendixes: Moments of inertia. Useful tables. Index.

Note: Although divided into two parts for convenience, this text for beginning students is a compact treatment in a total of 471 pages of the theory and application of mechanics. The opening chapter on the principles of mechanics, is repeated in both volumes, as are the appendixes. The exposition progresses from fundamentals to advanced theory with emphasis upon the importance of principles. An outstanding feature is the inclusion of a total of 1273 practical problems, almost all of which are illustrated by line drawings of exceptional clarity and reality. Solutions are printed in full for certain of the problems, and answers are given for many more.

PLETTA, DAN HENRY

Engineering statics and dynamics. New York The Ronald Press Company, 1951 392 p. illus. 23 cm. (A volume of a series in engineering mechanics, edited by Glenn Murphy) $5 50 1818

Contents: Statics: The scope and fundamental concepts of mechanics. The resolution and composition of force systems. Forces in equilibrium. Trusses, frames, and cables. Internal resistance of solid bodies. Centroids and moments of inertia. Dynamics, Part I, Kinematics: Motion of a particle. The motion of rigid bodies. Dynamics, Part II, Kinetics. Kinetics. Inertia forces. Work, energy and power. Impulse, momentum, and impact. Vibrations. Dimensional analysis and model similarity. Appendix. Answers to problems. Index.

Note: A textbook intended for beginning courses in statics and dynamics. The general theory of each topic is presented first and then the specific applications are considered. Descriptive matter is kept at a minimum, but many illustrative problems are presented. The author is Head of the Department of Applied Mechanics in the Virginia Polytechnic Institute.

SEELY FRED B AND NEWTON E. ENSIGN

Analytical mechanics for engineers. Fourth edition. New York John Wiley & Sons Inc. 1952 443 p. illus. 22 cm. $5 50 1819

Contents. Part one, Statics. Fundamental concepts and definitions. Resultants of force systems. Equilibrium of coplanar force systems. Equilibrium of trusses and cables. Equilibrium of non-coplanar force systems. Friction. Part two, Kinematics: Motion of a particle. Motion of rigid bodies. Part three, Kinetics. Force, mass, and acceleration. Work and energy. Impulse and momentum. Part four, Special topics: Mechanical vibrations. Balancing. Appendix: First moments and centroids. Index.

Note. (1194) A college textbook in which physical principles are presented for the benefit of prospective engineers. The emphasis is on the principles but engineering applications are indicated in the worked examples and in the problems for students to solve. Problems in equilibrium and in dynamics have been given special attention. The third edition appeared in 1941. In this edition moderate changes have been made in the illustrations, in the problems, and in various parts of the discussion.

VIBRATION

CREDE CHARLES E

Vibration and shock isolation New York John Wiley & Sons Inc., 1951 328 p 24 cm. $6.50. 1820

Contents Introduction. Isolation of vibration. Isolation of shock. Further considerations in vibration and shock isolation. Properties of materials and design of isolators. Particular applications of isolators. Index.

Note: A treatise covering both theory and practice in the use of resilient supports to protect machines and structures from vibration and shock. This subject is of interest to many engineers, ranging from those who design the relatively simple supports for automobile engines to those who are concerned with the installation of very heavy machines, such as punch presses. Most of the book is devoted to theory and fundamental considerations rather than to practical applications. It is addressed to graduate engineers and other persons who have equivalent backgrounds in mathematics, the fundamentals

of mechanics, etc. Each chapter includes selected list of literature references.

FREBERG, CARL ROGER AND E N KEMLER
Elements of mechanical vibration. Second edition. New York John Wiley & Sons, Inc. 1949 227 p. illus. 24 cm. $3 75 1821

Contents: Introduction. Vibrations without damping. Damped vibrations. Vibration of systems with several degrees of freedom. Vibration isolation and absorption. Equivalent systems. Beams. Sound. The mobility method. Mechanical and electrical models of vibration systems. Bibliography. Answers. Index.

Note: (1946) An introductory text which covers the basic techniques utilized in the analysis of vibrations in mechanical systems. The calculations involved do not require mathematical skill beyond that of differential and integral calculus. Practical applications of the theories and methods are illustrated by the use of numerous worked problems. In this edition the major changes consist of the expansion of the sections on beams to form new chapter and the addition of chapter dealing with sound as form of vibration.

HANSEN, HOLGER M , AND PAUL F CHENEA
Mechanics of vibration New York John Wiley and Sons, Inc. 1952 417 p. illus. 24 cm. $8.00. 1822

Contents. General concepts. Part I, Systems of one degree of freedom. *Free vibration without damping. Forced vibrations without* damping. Forced vibrations with damping. Part II, Systems of several degrees of freedom Classical method. The mobility method and use of the complex variable. Solution of the general frequency equation. Part III, Special topics Systems with distributed physical constants. Vibrations of transient character Vibrations of non-linear character Problems. Answers to problems. Index.

Note. The authors of this work are members of the faculty of the University of Michigan and the book has been developed from course in vibration analysis at that university It is introductory to the subject and is frankly textbook. However in the third part the student is introduced to problems and methods that are typical of those in use in practical vibration analysis in industry

HYDRAULICS

CREAGER, WILLIAM PITCHER AND OTHERS
Hydroelectric handbook, by William P Creager and Joel D Justin with the assistance of contributors Second edition. New York John Wiley & Sons Inc. 1950 1151 p. illus. 24 cm. $15.00 1823

Contents (abridged) Preliminary studies and economics. Rainfall. Factors affecting runoff. River gaging, by N C. Grover and J. C. Hoyt. Flood flows Investigation of sites. Hydraulics. Pondage and storage. Types of hydro plants. Cost of steam power. Cost of hydro power. Dams—design and construction. Solid gravity concrete dams. Arch dams. Earth dams. Timber dams and steel dams. Spillways and headwater control Conduits and powerhouses Intakes. Canals. Steel pipe, by C. H. Schaeen and H C. Boardman. Wood stave pipe, by R. E. White. Water hammer by E. B. Strowger Powerhouse substructure. Powerhouse superstructure, by J H. Gandolfo. Equipment and operation Hydraulic turbines, by Arnold Pfau and W M White. Electrical design, by R. A. Hopkins. Operation of hydroelectric plants, by Albion Davis. Index.

Note. There are 44 chapters in this comprehensive work. Each chapter is condensed technical essay on its title subject and is, in most cases, supplemented by bibliography of the useful technical literature. The book is standard one for practicing engineers and is especially useful to those members of the profession who have not specialized in hydroelectric engineering but are beginning to work with the construction or operation of hydroelectric plants. The first edition was published in 1927 and was 897 pages in length. The greater part of the material in the second edition is new

DAVIS CALVIN VICTOR, editor in-chief
Handbook of applied hydraulics. Second edition. New York McGraw Hill Book Company Inc. 1952 1272 p. illus. 24 cm. $15.00. 1824

Contents: River regulation by reservoirs, by E. T Knappen and others. Gravity dams, by C. V Davis. Arch dams, by L. E. Houk. Buttress dams, by E. H. Burroughs. Earth dams, by T. T Knappen and J. Lowe III. Rock fill dams, by L. C. Hoxie. Spillways and stream-bed protection works, by E. W Lane and C. V Davis. Spillway crest gates, by J. S. Bowman and J. R. Bowman. High pressure outlet works, by F A. Kittredge. Canals, flumes, covered conduits, tunnels, and pipe lines, by J Hinds. Hydroelectric plants, by J C. Stevens and C. V Davis. Hydraulic machinery by L. F Moody. Water hammer, by G. R. Rich. Surge tanks, by G. R. Rich. Speed regulation and governing stability by G. R. Rich. Navigation locks, by G. R. Rich. Irrigation, by I. E. Houk. Irrigation structures, by I. E. Houk. Water supplies, by T R. Camp. Water distribution, by T R. Camp. Water treatment, by T R. Camp. Sewerage, by S. A. Greeley and W. E. Stanley Sewage-treatment hydraulics, by S. A. *Greeley and W. E. Stanley. Hydraulic models, by G. E. Riche.* Hydrology by P E. Kirpich. Appendixes: Hydraulic formulas, by W L. Voorduin. Graphical aids to hydraulic computations, by E. E. Sorensen. Index.

Note. A standard engineering handbook of the "essay" rather than the "table" type. Although the pertinent formulas and the special collections of data are present, they are subordinated to an expository text which is designed to be read. In many of the sections fundamental principles and their practical applications are presented by describing the engineering features of representative projects already constructed. For this edition much of the original text was rewritten or augmented. Sections on water hammer surge tanks, navigation locks, and speed regulation have been added. The expanded discussions include those on gravity dams and hydroelectric plants. The appendixes on formulas and graphical aids are also newly added.

EINSTEIN, HANS ALBERT
The bed load function for sediment transportation in open channel flows. Washington, D C. Government Printing Office, 1950. 71 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1026) Paper 1825

Contents: Introduction. Approach to the problem. Elements of the bed-load function. *Hydraulics of the alluvial channel.* Suspension. Integration of the suspended load. Limit of suspension. Practical calculation of suspended load. Bed-load concept. The bed load equation. Transition between bed load and suspended load. The necessary graphs. Flume tests with sediment mixtures. Sample calculation of river reach. Limitations of the method. Summary. Literature cited. Appendix: List of symbols. Work charts.

Note: A method for determining the bed-load function for many but not all types of stream channels is described in this pamphlet. The method permits measures of protection of future channel changes, important in the prevention of bed erosion, which may be caused by improvements such as dams or other projects altering the flow of the stream and which, if severe, may lead to the undermining of costly installations, bridge piers, sewer outlets, and bank protection works. The illustrative material includes nine folded two-color work charts in pocket.

IOWA. STATE UNIVERSITY INSTITUTE OF HYDRAULIC RESEARCH
Engineering hydraulics proceedings of the fourth Hydraulic Conference June 12 15, 1949 Edited by Hunter Rouse. New York. John Wiley & Sons Inc. 1950. 1039 p. illus. 24 cm. $15.00. 1826

Contents. Fundamental principles of flow by H. Rouse. Hydraulic similitude, by J. E. Warnock. Flow measurement, by J. W Howe. Hydrology by G. R. Williams. Flow of ground water, by C. E. Jacob. Steady flow in pipes and conduits, by V L. Streeter. Surges and water hammer by J. S. McNown. Channel transitions and controls, by A. T Ippen. Gradually varied channel flow, by C. E. Posey Flood routing, by *R. R. Odeman.* Wave motion, by G. H. Keulegan. Sediment transportation, by C. B. Brown. Hydraulic machinery by J. W Daily Appendix: List of symbols. Dimensional considerations. Properties of common fluids. Author index. Subject index.

Note. A comprehensive treatise in which the emphasis is on the principles and basic techniques of hydraulic engineering rather than specialized applications. The work was planned as whole by the staff of the Iowa Institute of Hydraulic Research, and each of the thirteen subdivisions into which the main subject was divided was assigned to an outstanding authority. The manuscripts prepared by the thirteen authors were edited and correlated, then issued in

preprint form to the registrants for the fourth Hydraulics Conference sponsored by the Institute. This conference was devoted to criticism and discussion of the manuscripts. Finally all of the chapters were revised in the light of the experts' criticism. The final result is a book that should take its place as the basic volume in any library collection on hydraulic engineering.

McCLAIN, CLIFFORD HENDERSON

Fluid flow in pipes. A clear-cut summary of modern theory in the flow of liquids and gases through piping and ducts, with practical applications and detailed worked-out examples. New York The Industrial Press 1952 123 p. 24 cm. $3.00. 1827

Contents: Dimensions of fluid properties. Viscosity of fluids. Effect of piping on fluid flow. Design practice.

Note: Apparently this is the third edition of a book that has already enjoyed some circulation among engineers and other persons concerned with the design of industrial piping. The basic phenomena and theory are covered rather thoroughly from the standpoint of design. Though much of the exposition is expressed mathematically the mathematics is relatively simple. Twenty worked examples are included at appropriate points to assist the engineer or plumbing contractor who studies the book by himself.

POWELL, RALPH WATERBURY

An elementary text in hydraulics and fluid mechanics. A revision of *Mechanics of liquids* New York The Macmillan Company 1951 316 p. illus. 22 cm. $4 75 1828

Contents: Hydrostatics. Fundamentals of fluid flow. Orifices, tubes, nozzles, and weirs. Pipe flow. Flow in open channels. Further effects of viscosity, surface tension, and compressibility. Models. Appendixes: Properties of liquids, with tables. Dimensional analysis. Rational bases for pipe formulas. Stream gaging. Index.

Note: (1307) A textbook designed for use in engineering colleges. Appropriately it pays due attention to the historical development of the subject and emphasizes principles. However both the examples that are worked in the exposition and the problems for the student to solve illustrate concrete applications in engineering. Some reorganization and considerable revision have been put into the present edition. The major addition is the chapter on hydraulic models.

RICH GEORGE ROLLO

Hydraulic transients. New York McGraw Hill Book Company Inc., 1951 260 p. illus. 24 cm. (Engineering Societies monographs, Ralph H. Phelps, consulting editor) $7.00 1829

Contents: Water hammer. Turbine speed regulation. Stability of governing. Water-hammer pressures in pump discharge lines. The differential surge tank. The restricted-orifice surge tank. Navigation locks. *Surges in power canals—tidal harmonics. Elements of the* graphical method of water-hammer analysis. Index.

Note: An engineering college textbook applying arithmetic integration and trial-and-error arithmetic to practical problems in water-hammer, surge-tank design, turbine-speed regulation, stability of governing, pressures in pump discharge lines, filling systems for navigation locks, and surges in open canals. In a few cases where the development of theory requires the solution of partial differential equations the author has employed the complex operational calculus, explaining that the reader not familiar with the method "may take this small amount of routine mathematics for granted without any impairment of the general usefulness of the book in practical computation." The author states his opinion that no method exceeds the arithmetic-integration process in simplicity and directness or affords so clear an insight into the physical action at all stages of the cycle. Bibliographical references appear at the ends of the chapters.

STEARNS REID F AND OTHERS

Flow measurement with orifice meters, by Reid F Stearns Russell R. Johnson, Robert M. Jackson and Charles A. Larson. New York D Van Nostrand Company Inc. 1951 350 p. illus. 26 cm. $7.50 1830

Contents (abridged): Introduction. Derivation of flow equations. Applications of flow equations to metering problems. Evaluation of variable terms in flow equations. Principles of operation of commercial meters. Interpretation of meter records. Orifice meter installations. Testing and checking meters. Special metering problems. Accuracy of orifice meter installations. Appendixes: Supplemental metering information. Numerical data. Physical data. Bibliography Index.

Note: A comprehensive manual of the use of orifice meters for the measurement of the flow of fluids including gas, steam, water, oil, and chemicals in pipes and other closed conduits. It has been written by four engineers associated with the Standard Oil Development Company and it is addressed primarily to chemical engineers at work in industry. Such aspects of the general subject as selection of orifice sizes, types of differential meters, installation of meters, the keeping and interpretation of meter records, and estimations of accuracy are discussed fully. The book abounds in graphs and tables designed to facilitate its use by engineers who are not meter specialists.

STREETER, VICTOR LYLE

Fluid mechanics. New York McGraw-Hill Book Company Inc. 1951. 366 p illus. 24 cm. $5.50. 1831

Contents: Pressure intensity. Static pressure forces. Fluid flow concepts and basic equations. Action of fluid jets—turbomachinery. Laminar flow. Flow measurement. Steady flow in closed conduits. Flow in open channels. Flow around immersed bodies. Oil hydraulic systems. Appendixes: Physical properties of fluids. Partial derivatives and total differentials. Index.

Note: An elementary textbook for engineering students. It is supposed that the student will have completed a course in integral calculus and at least two courses in engineering mechanics before undertaking the course of study in fluid mechanics. Explanations of the various new topics introduced are carefully presented on an elementary level and, in general, the elaborate treatment that the use of partial differentials would make possible has been avoided so that students may focus upon the fluid phenomena. A large number of problems, both of the numerical type and of the multiple-choice type, are printed at the end of each chapter, and bibliographical references are given at the close of some of the chapters.

UNITED STATES. BUREAU OF RECLAMATION

Hydraulic and excavation tables. Tenth edition. Washington, D C. Government Printing Office, 1950. 173 p. 18 cm. $1.50. 1832

Note: Compiled originally for the official use of the engineers of the Bureau of Reclamation, this manual of tables has proved to be useful to other engineers concerned with projects involving hydraulics and earth moving. Most of the 54 tables were computed for this publication. Earlier editions appeared in 1905, 1910, 1913, 1917 1921 1924, 1935 1940, and 1946, and the number of tables has gradually increased from 13 to the present 54.

WILSON, WARREN ELVIN

Positive-displacement pumps and fluid motors. New York Pitman Publishing Corporation, 1950. 250 p. illus. 24 cm. $7.50 1833

Contents: History and elementary concepts. Deviations from ideal performance. Classification of pumps and fluid motors. Characteristics and applications of positive-displacement units. Elementary performance calculations. Elements of fluid flow. Pump and motor theory. Advanced analysis of experimental data. Design methods. Hydraulic clutches. Hydraulic transmissions. Appendixes: Bibliography. Symbol list. Conversion factors for dynamic viscosity. Index.

Note: Positive-displacement pumps (and fluid motors) include such types as vane pumps, radial-piston pumps, axial-piston pumps, gear pumps, screw pumps, and lobe pumps. Pumps of this class are widely used in hydraulic mechanisms, such as hydraulic presses, airplane control systems, and automatic transmissions; hence, an understanding of their basic principles is useful to engineers in many fields. This introductory book describes the chief types and their characteristics, the basic theory, and shows how capacity, efficiency, and other properties are calculated. The bibliography is almost 20 pages long, and covers the literature, except patents, published from 1939 through approximately the first half of 1940.

ENGINEERING MATERIALS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on accelerated durability testing of bituminous materials. Presented at the fifty-second annual meeting Atlantic City, N J June 30 and July 1, 1949 Philadelphia, Pa. American Society for Testing Materials, 1950 181 p illus. 23 cm. (Special technical publication no. 94) Paper $2 00 1834

Contents: Introduction. A review of accelerated test methods for the evaluation of road tars, by E. O. Rhodes. Characteristics of carbon-arc light sources for accelerated exposure testing, by W W Lasier and others. Behavior of bituminous road materials under accelerated exposure conditions and laboratory heat tests, by Richard H. Lewis. Accelerated weathering of road tars, by R. W McGowen. Immersion-compression tests compared with laboratory traffic tests on bituminous concrete, by A. T Goldbeck. The use of an abrasion test as measure of durability of bituminous mixtures, by John H. Swanberg and W L. Hindermann. Test methods for performing accelerated durability tests on asphalts, by T K. Stanton and F M. Hveem. Durability tests; word of caution, by O. L. Oliensis. Accelerated weathering of pitches and asphalts, by W F Fair, Jr., and others. Mineral stabilizers in asphalt roofings, by L. Kirschbraun and others. A new method for evaluating failure of bituminous materials due to weathering in, by J B. Hunter and others. The design and application of spark-gap instrument for detecting crack failures of asphalt coatings during weathering tests, by A. H. Benner and L. A. H. Baum. Experience with reduction in accelerated durability tests on bituminous materials, by Joseph Zapata.

Note: The papers in this symposium are based on investigations conducted by authorities in the field. Written for research workers and engineers concerned with the utilization of bituminous materials, they provide technical information regarding the changes which occur in such materials during various conditions of exposure and weathering. Testing methods and equipment are described in detail. Discussions and brief lists of references are included.

BATEMAN JOHN HENRY

Materials of construction a textbook for students of engineering. New York Pitman Publishing Corporation 1950 568 p. illus. 23 cm $6 50 1835

Contents: Introduction Mineral aggregates. Cementing materials. Concrete—materials, essential properties, proportions—manufacture, placing, properties—mortar gypsum, and lime products. Structural clay products. Building stone. Lumber and timber. The manufacture of pig iron and steel. The crystal structure and constitution of metals and alloys. Alloy steels. The shaping of steel—the structural steels. Wrought iron, cast iron, malleable cast iron. Structural aluminum and structural magnesium. The preservation of the ferrous metals. Index.

Note A text and reference book in which the manufacture, properties, dimensions, etc. of building materials are described. A good deal of supplementary information is included. For example, the chapter on the manufacturing and placing of concrete provides reliable and fairly inclusive survey of current practices in the field including the placing of concrete in large structures such as dams, and also including special methods of placing such as "prepakt" concrete. The chapters are supplemented by good bibliographies.

BRADY GEORGE STEWART

Materials handbook an encyclopedia for purchasing agents, engineers executives and foremen. Seventh edition. New York Mc Graw Hill Book Company Inc. 1951 913 p 24 cm $9.00 1836

Note. (1577*) The usefulness of this handbook for anyone seeking concise, general information regarding the occurrence, properties, and uses of natural and manufactured products has been well established. In this edition many of the articles have been revised and expanded, while less important topics have been dropped or rechecked. An increase of eight pages in the index and check of the text proper indicate the inclusion of much additional material, with new entries on such topics as acrylonitrile, [illegible], [illegible], [illegible] oil, and latex. The tabulated data of Part II have also been expanded to include information on softwood trees, specific gravity, impact strength, etc.

BURTON WALTER E. editor

Engineering with rubber New York Mc Graw Hill Book Company Inc., 1949 486 p. illus. 23 cm. $8 00 1837

Contents: Types of rubber. Properties of rubber. Rubber adhesion. Latex products. V-belts and sheaves. Flat rubber belting—transmission—conveyor—elevator Extruded rubber Rubber mountings. Hard rubber Rubber hose. Rubber in hydraulic equipment. Lathe-cut rubber. Rubber linings. Molded rubber Packing and sheet rubber. Rubber proofing materials. Rubber-covered rolls. Sponge rubber. Rubber thread and tape. Miscellaneous rubber products. Vinyl chloride polymers. Case histories. Index.

Note. The chief purpose of this volume is to suggest to design engineers when and how rubber may be utilized to good advantage in machinery and manufactured products. In addition to serving a practical guide to the properties, uses, and engineering possibilities of natural and synthetic rubbers, it describes the methods of manufacture and operating characteristics for variety of products made from rubber and rubber compounds. Particularly useful are the tabulations of technical data regarding the dimensions, engineering properties, and structural details of these products.

DIETZ, ALBERT GEORGE HENRY

Materials of construction—wood, plastics, fabrics. New York D Van Nostrand Company Inc., 1949 347 p. illus. 24 cm. (A technical series on building construction Walter C. Voss editor) $5.50 1838

Contents: Sources of timber supply Growth and structure. Physical properties. Hygroscopic properties, shrinkage and swelling. Mechanical properties. Identification. Lumber, grades and sizes. Destructive agencies. Preservative treatment. Trusses, adhesives, plywood, laminated wood. Textile materials. Chemistry of plastics and resins. Plasticizers, fillers, colors, film and sheet, coatings. Molds and molding methods. Plastics-bound laminates, vulcanized fiber resin-wood combinations. Properties of plastics. Building boards, structural sandwiches, timber-concrete. Index.

Note. A concise, almost encyclopedic, presentation of information on materials used in modern building. The various materials are discussed from the standpoint of their use in building, but much information is also included on the processes by which the materials are manufactured. Numerous tables of engineering data are included, and each chapter is supplemented by useful bibliography

DIETZ ALBERT GEORGE HENRY editor

Engineering laminates. New York John Wiley & Sons, Inc., 1949 797 p. illus. 24 cm. $12 00 1839

Contents Introduction The strength of laminates and sandwich structural elements, by N J Hoff. Adhesives, by R. K. [illegible]. Glued laminated wood, by [illegible] Ketchum. Plywood, by [illegible] and D Countryman. Composite laminated wood-concrete construction, by W D Keeney. Plastics-based laminates, by R. K. Witt. Then [illegible] sheet metals, by U U Sorensen. Aluminum-clad products, by E. P. [illegible] H Dix, Jr. Hot-dipped aluminum-coated steel, by [illegible] Nickel-clad, monel, Copper and copper-alloy clads, by W L. Kern. Stainless clad, and inconel-clad steel, by W G. Theisinger. Stainless clad steel, by C. A. Schempp. Cast laminated metallic materials, by J. S Vanick. Hardness and wear resistance—hard surfacing by [illegible] welding, by H. S. Avery. Sprayed metal, by [illegible] Glass lined steel equipment, by O. I. Chormann. Composite and sandwich-type building [illegible] structures, by G. B. Watkins. Sandwich-type [illegible] laminates based cores, by A. [illegible] and M. Lief. Faced plywoods and their properties, by N. O. [illegible]. Structural sandwich construction, by R. T Schwartz. Rubber laminated, by W E Burton Molding laminates and sandwich materials, by C. R. Hemming. Index.

Note The term laminates, as used in this volume, includes all composites which are of value from an engineering point of view and whose properties differ significantly from the properties of the constituent materials. Emphasis is placed on the physical properties and engineering uses of the various types of laminates, but information regarding methods of manufacture and fabrication is also included.

cluded. The volume is designed for the use of engineers and architects, and is particularly valuable for its extensive tabulations of data regarding the physical and mechanical properties of wide variety of laminated products. Bibliographies accompany most of the chapters.

ENGEL, HARRY CHARLES AND OTHERS

Structural plastics by H. C. Engel, C. B Hemming, and H. R. Merriman. New York McGraw Hill Book Company Inc., 1950 301 p. illus. 23 cm. o p. 1840

Contents: Theoretical aspects of high-polymeric substances. Resins utilized in structural plastics. Reinforcing materials. Laminated plastics. Low pressure molding. Sandwich constructions. Structural adhesives. Radomes and microwave windows. Appendixes: Test methods. Derivation of optimum face-thickness ratio of sandwich panels. Partial list of adhesive trade names and suppliers. Author index. Subject index.

Note: A useful summary of plastic materials having properties which suit them to structural uses. It is designed for readers such as architects, aircraft designers, and structural engineers who will make practical use of the knowledge. Such aspects as methods of manufacture, types, official grades (when the latter have been established for the particular materials) structural properties, and effects of environmental conditions upon the finished products are covered. The presentation is compact, but liberal references are made to source publications. Trade names and trademarked products are mentioned only incidentally except in the chapter on adhesives. In an appendix most of the important adhesives are mentioned and identified as to type and also manufacturer's name.

LYSAGHT VINCENT E.

Indentation hardness testing. New York Reinhold Publishing Corporation 1949 288 p. illus. 24 cm. $7.50 1841

Contents: Foreword, by Charles H. Wilson. Hardness concepts. The Brinell test. Meyer's analysis. The scleroscope. The Rockwell tester The Rockwell superficial hardness tester. 136° diamond pyramid hardness method. Other hardness testers. Portable hardness testers. Hardness conversion relationships. Applicability of hardness tests. Tests on sheet metal. Cylindrical surfaces. Hot hardness testing. Microhardness testing of metals. Indentation hardness testing of non-metallic materials. Conclusion. Appendix. Index.

Note. A discussion of hardness and its measurement, written chiefly from the viewpoint of engineers, inspectors, and other persons who are concerned with the practical measurement of hardness in connection with the manufacture of industrial products. The greater part of it is devoted to detailed discussions of the principles, characteristics, and limitations of the principal instruments which are used for testing hardness. The instruments are shown in reproductions of photographs which are supplemented by drawings of mechanical details. Special problems such as the testing of hot metals are also covered. A number of useful tables are included. The author is associated with the Wilson Mechanical Instrument Company

MARIN JOSEPH

Engineering materials their mechanical properties and applications. New York Prentice-Hall, Inc., 1952 491 p. illus. 23 cm. (Prentice-Hall engineering design series, John A. Hrones, editor) $8.70 1842

Contents (abridged) Part one, Mechanical properties—general: Static properties in tension and compression. Static properties in shear and bending. Static properties under combined stresses. Fatigue properties. Impact properties. Creep and temperature properties. Part two, Specific materials: Structure of materials and control of their properties. Ferrous metals and alloys. Non-ferrous metals and alloys. Non metallic materials. Part three, Materials testing machines and strain gages. Name index. Subject index.

Note Although this college textbook is designed to be used in introductory courses it contains an analytical treatment that carries the reader farther into many topics than is common in introductory books. Methods of testing materials and the interpretation and application of results are emphasized. Unexpectedly full discussions of such topics as creep and temperature properties are included. Related literature is listed in footnotes in chapter bibliographies. The author is Professor of Engineering Mechanics and Research Professor of Engineering Materials at Pennsylvania State College.

NORD, MELVIN

Textbook of engineering materials. New York John Wiley & Sons, Inc., 1952 518 p. illus. 24 cm. $6.50 1843

Contents (abridged) Part I, The raw materials of engineering: Sources of raw materials. Formation of mineral deposits. Recovery of mineral. Part II, Production of engineering materials: Mineral dressing. Unit chemical processes in the production of engineering materials. Principles and processes of extractive metallurgy. Part III, Properties of engineering materials: States of matter. Mechanical properties of engineering materials. Physical and chemical properties of engineering materials. Part IV Specific engineering materials. *Section 1* Materials for the generation of energy—water—fuels—explosives. Section 2, Metals. Section 3, Natural and artificial stone. Section 4 Natural and synthetic organic materials of construction. Section 5, Protective materials. Index.

Note: The first three parts of this work are devoted to an exposition of basic aspects of engineering materials. Part IV—which accounts for more than 300 of the 500 odd pages—is devoted to *discussions and descriptions of specific materials. In this part each* material considered is defined, and its origin, properties, manufacture, and uses are described. Finally there is short list of literature references. Many of these descriptions contain enough material to make them useful for reference by readers who want background information rather than engineering data. However, the book is intended for use in short courses in engineering colleges.

WANGAARD FREDERICK FIELD

The mechanical properties of wood. New York John Wiley & Sons, Inc., 1950 377 p. illus. 22 cm. $7.50. 1844

Contents (abridged) Part I, Basic mechanical properties of clear wood: Structural uses of wood. Tensile strength. Compressive or crushing strength. Stiffness. Toughness. Hardness. Cleavage resistance. Elastic properties. Part II, Factors affecting the mechanical properties of wood: Defects—Knots—Checks and shakes—Cross grain—Wood-inhabiting fungi—Compression failures and cross breaks—Bird peck—Marine borer injury—Lightning rings. Factors other than defects—Density—Position in tree—*Moisture content—Preservative treatment* —Heartwood and sapwood—Season of cutting—Duration of stress—Fatigue. Part III, Working stresses for structural lumber: Factors concerned in the derivation of basic stresses. Basic-stress values for clear wood. The basis for structural lumber grades. Application of working stresses in design. Part IV Timber testing: Working plan. Moisture determination. Machines for static tests. Description of tests. References. Appendix. Index.

Note: In this useful book information is presented on the various factors which affect the strength and other mechanical properties of wood and the methods of testing wood. All of the topics mentioned in the above table of contents and about as many more are covered compactly but in sufficient detail for average use. The text is liberally supplemented with literature references and tabulated data. The book is of interest to builders, structural engineers, and others who are required to specify or test wood for manufacturing or structural purposes. It supersedes G. A. Garratt's book (1321) of the same title.

WOLDMAN NORMAN EMME

Materials engineering of metal products. New York Reinhold Publishing Corporation, 1949 583 p. illus. 24 cm. $11 00 1845

Contents (abridged) Section I, Materials for light-weight construction. Aluminum alloys. Magnesium alloys. High strength low alloy steels. Stainless steel. Section II, Materials for mechanical products: Gear materials. Spring materials. Bearing materials. Section III, Materials for the electrical industries: Magnetic materials. Electrical contacts. Thermostat metals. Section IV Materials for special and severe service: Corrosion and its prevention. High-temperature materials. Section Testing: Mechanical testing. Nondestructive testing and inspecting. Appendix: Properties of materials. Subject index.

Note: (3100*) Essentially desk reference book for engineers concerned with design and specification. However, it is more than mere compilation of data. The expected tabulations of properties are present, but the greater part of the text consists of concise but helpful discussions of such matters as the behavior of specific materials under working conditions. For example, the chapter on electrical contacts includes discussion several pages in length on contact operation and failure, in which the causes of contact failure are made clear. Most of the matter relates to metals, but few other materials, such as carbides for parts, are considered. The work is companion to the author's *Metal process engineering.*

MATERIALS HANDLING

HUDSON, WILBUR G

Conveyors and related equipment. Second edition. New York John Wiley & Sons, Inc., 1949 468 p. illus. 24 cm. $7.50 1846

Contents. General principles. Screw conveyors. Flight and apron conveyors. The bucket elevator. The skip hoist. Bucket carriers. Unit loads. The continuous-flow conveyor. Pneumatic and hydraulic conveyors. The belt conveyor. Aerial tramways. Storage and transport. Bins and bunkers. Unloading water-borne cargoes. Crushers, hammermills, and pulverizers. Screens and feeders. Car unloading. Weighing. Chains, drives, drive groups, motors. Power-plant coal and ash handling. Some problems and solutions. Dust-explosion hazards. Appendixes. Index.

Note: (3313a) Information is presented about machinery and equipment for the handling and storing of industrial materials, and about large-scale storage of selected materials such as coal. The viewpoint is that of an engineer concerned with the selection of materials-handling equipment, and the presentation is largely descriptive, though written in technical terminology. In revising the work for the present edition the author made numerous small changes throughout the text and added two chapters. There is no bibliography

REIBEL SIDNEY

Trolley conveyors. New York McGraw Hill Book Company Inc., 1949 265 p. illus. 24 cm. $5.00 1847

Contents: General features. What to buy. Laying out the conveyor. Chains. Trolleys. Track and supports. Horizontal bends. Vertical bends. Drives. Tables. Overhead devices. Multiple drives. Take-ups. Attachments, carriers, and hooks. Guards and runaway stops. Calculating chain pull. Special conveyors. Power and free. List of visual aids. Index.

Note: The overhead trolley conveyor is said to be the most important type of conveying equipment in present-day manufacturing plants and in other industrial establishments where loads must be moved frequently over the same route. In this book trolley conveyors are discussed thoroughly from the viewpoint of industrial engineers, plant managers, and others who may be concerned either with their layout or maintenance. Precise information, which includes dimensional drawings, is given on the chain, trolleys, tracks, and other parts of these conveyors. All other aspects which are needed in planning conveyor systems are fairly covered. A considerable proportion of the numerous illustrations show details of trolley conveyor installations in factories.

CIVIL ENGINEERING

GENERAL

URQUHART, LEONARD CHURCH editor

Civil engineering handbook. Third edition. New York McGraw Hill Book Company Inc., 1950. 1002 p. illus. 24 cm. $11 00. 1848

Contents: Surveying, by R. E. Davis. Railway, highway and airport engineering, by J. B. Babcock, 3rd, and A. J. Bone. Mechanics of materials, by J. B. Kommers. Hydraulics, by H. W. King and E. F. Brater. Stresses in framed structures, by L. C. Urquhart. Steel design, by C. T. Bishop. Cement and concrete, by H. J. Gilkey. Soil mechanics and foundations, by A. E. Cummings. Sewerage and sewage disposal, by R. G. Tyler. Water supply and purification, by H. E. Babbitt. Index.

Note: (3119) As in previous editions, this book is primarily a basic reference tool for upperclass students and practicing engineers. In spite of its handbook nature, many of the sections are fairly complete expositions of the topics to which they are devoted. Although the greater part of the text has been carried over from the previous edition, there has been extensive revision. The additional 125 pages are largely accounted for by new sections on photogrammetric surveying, airport engineering, and hydraulic models; but the chapter on cement and concrete has been expanded, and mechanics and soil testing are treated at greater length, and numerous small changes occur throughout the book. The bibliographies have been revised.

WHITE, LAZARUS, AND EDMUND ASTLEY PRENTIS

Cofferdams. Second edition, revised and enlarged. New York Columbia University Press, 1950 311 p illus. (part col'd) 24 cm. $10.00 1849

Contents: Hydrodynamics of cofferdams. Erosion in streams. Lateral earth pressure. Land cofferdams. Practical considerations. Examples of cofferdams. Appendixes: Miscellaneous photographs. Wages and prices. Glossary. Bibliography. Index.

Note: (3480) Apparently this work is the only full-scale treatment in book form of its subject. It covers both basic theory and practice. It is used chiefly as a survey and reference book by practicing engineers and contractors who are directly concerned with the construction of cofferdams. The chapter on examples contains specific descriptions of fifteen cofferdams of various types. The first edition appeared in 1940. A considerable amount of new material has been added in the present edition.

SURVEYING

GOSSETT F R.

Manual of geodetic triangulation. Washington, D C. Government Printing Office, 1950 344 p. illus. 25 cm. (United States. Coast and Geodetic Survey Special publication no. 247) Paper $1.50. 1850

Contents: Introduction. Reconnaissance. Triangulation. Base measurement. Azimuths. Special surveys. Appendix: Specifications for horizontal and vertical control. Strength of figure. Constants and formulas. Lists of instruments and equipment. Lists of books and forms. Standard list of common names of objects used as landmarks. Special applications of vertical-angle measurements. Miscellaneous tables. Index.

Note. The material in this manual is the product of accumulated experience in the field and in the office of numerous members of the U. S. Coast and Geodetic Survey for many years. The manual is a compilation of currently approved methods for triangulation surveys of the Coast and Geodetic Survey furnishing specifications and instructions for first-, second- and third-order triangulation by field parties of the Survey.

MEYER, CARL FREDERICK

Route surveying. Scranton, Pa. International Textbook Company, 1949 300 p. illus. 19 cm. $7.00 1851

Contents: Part I, Basic principles: Route location. Simple curves. Compound and reverse curves. Parabolic curves. Spirals. Earthwork. Part II, Practical applications: Special curve problems. Curve problems in highway design. Railroad surveys. Highway surveys. Surveys for other routes. Partial theory of the spiral. Part III, Tables. Index.

Note: The main principles and techniques of route surveying are presented in this text and pocket-book. The author is Professor of Civil Engineering in Worcester Polytechnic Institute, and his book is designed primarily for engineering college students. However, it contains a good deal of concise information including tabulated data which should be useful to the engineer in the field. The book is well organized and clearly written.

PICKELS GEORGE WELLINGTON, AND CARROLL CARSON WILEY

Route surveying Third edition. New York John Wiley & Sons, Inc., 1949 434 p. illus. 18 cm. $5.25 1852

Contents: Route surveys. Maps, plans, and profiles. Distance, curvature, and grades. Circular curves. Spirals. String lining railroad curves. Parabolic curves. Railroad turnouts, connections, and crossings. Earthwork. Appendix: Theory of spiral. Tables. Index.

Note: (3146) An advanced text and reference book for surveyors and civil engineers. Railroad surveys are treated first, then applications or modifications of the methods to other routes such as highways, pipe lines, and power transmission lines are dealt with. Knowledge of elementary surveying and trigonometry is presupposed. In this edition the chapter on string lining has been completely rewritten, and other lesser changes have been made throughout to incorporate new material.

RAYNER, WILLIAM HORACE

Advanced surveying. Second edition. New York D Van Nostrand Company Inc. 1950 369 p. illus. 20 cm. $5.00 1853

Contents: Errors. Precise leveling. Traverse. Triangulation. Field astronomy. Topographic surveying. Hydrographic surveying. The measurement of stream flow. Mine surveying. Photogrammetry. Plane coordinates. History of surveying. Index.

Note. (3147) A standard textbook designed for use in undergraduate college courses which have been preceded by courses in elementary surveying. It explains the more refined methods of measurements used in accurate work and also in specialized work. The major change in this edition is a revised treatment of photogrammetry. Also a true meter parallax table has been included and there are other minor revisions. The author is Professor of Civil Engineering in the University of Illinois.

RUBEY HARRY

Route surveys, a pocket book for the survey design, and construction of railways, highways tramways beltways, canals flumes, levees pipe lines transmission lines, and other route constructions. Revised edition. New York The Macmillan Company 1951 282 p. illus. 12 cm. $5.25 1854

Contents (abridged). The reconnaissance. Location. Simple circular curves. Compound and reverse curves. Vertical and other parabolic

curves. Spirals. Railway turnouts and track layouts. String lining of curves. Excavation and embankment. Rights of way. Construction. Observations for meridian. Adjustment of instruments. Aerial photography in route surveying. Index.

Note. (1170) A handy reference tool and guide for engineers concerned with the survey, design, and construction of a wide variety of transportation routes. In this edition little change has been made in the text of the original edition, but new chapters have been added on aerial photography and highway practice. The tables, which occupy approximately half the volume, have been modified, and eight-place tables of natural sines and cosines are now included.

RUBEY HARRY, AND OTHERS

Engineering surveys elementary and applied, by Harry Rubey George Edward Lommel, and Marion Wesley Todd. Second edition New York Macmillan Company 1950 888 p. illus. 21 cm. $6 00 1855

Contents (abridged) Measurement of distances. Compass surveying. Leveling. The transit. Adjustment and care of instruments. Observations for meridian. Stadia surveying. Topography Triangulation. Land surveys. Route surveys. Area surveys. City surveys. Office work. Organization of surveys. Introduction to applied engineering surveys. Horizontal control. Engineering astronomy. Vertical control. Topographic details. Photogrammetry. Hydrographic surveying and flow measurements. City planning surveys. Underground surveys. Construction surveys. Tables. Index.

Note. (1169) An engineering college textbook which covers the whole field of modern surveying practice including the newer developments such as photogrammetry and allied techniques such as the measurement of stream flow. These uncommon techniques are not covered exhaustively but the discussion is always supplemented by lists of references to related books and articles where more information can be found. The book's inclusiveness and its typographical excellence make it a good one for library use. Changes in this edition as compared to the first are not extensive, but they include the rewriting of the chapter on photogrammetry and revisions of the bibliographies.

SKELTON RUSSELL R

Route surveys. New York McGraw Hill Book Company Inc. 1949 531 p illus. 18 cm $6 00 1856

Contents Introduction. The reconnaissance. The preliminary survey. The location survey. Simple circular curves. Compound and reverse curves. Parabolic curves and their applications. Spiral curves. String lining of curves. Earthwork. Earthwork distribution. Right of way. Construction surveys. Elements of turnouts, frogs, and switches. Problems. Tables. Index.

Note. An engineering college textbook and field manual on the surveying of transportation routes. It is general in scope in the sense that it covers the surveying and location of railway routes, highway routes, transmission line routes, etc. However the major emphasis is on highway surveying. Practical methods currently in use in the United States are covered. Problems for students to solve are included but these are set off in a separate section where they do not interfere with the use of the book in the field. Approximately half of the space is occupied by a series of useful tables.

PHOTOGRAMMETRY AND CARTOGRAPHY

BROWN LLOYD ARNOLD

The story of maps. Boston, Mass Little Brown and Company 1950 397 p. illus. 26 cm. $7 50 1857

Contents Introduction. The earth takes shape. The habitable world. The world of Claudius Ptolemy. The Middle Ages. Charts and the haven-finding art. The map and chart trade. The latitude. The longitude. Survey of a country. Survey of a world. Notes. Bibliography. Index.

Note. A survey history of the science of mapmaking, written as far as possible from original sources consulted in the chief libraries of the United States and Europe. From the classical world of Egypt, Greece and Rome down through the days of Columbus and Magellan, to the Army Map Service of World War II, the story is told with emphasis upon the mapmakers and the methods and apparatus they used rather than upon the charts and maps which they produced. A selective bibliography representative of the literature on cartography arranged under 15 broad subject groupings covers 33 pages at the conclusion of the book. The illustrations number 91, aside from the end papers, which reproduce two Dutch maps of 1583. The author is connected with the Peabody Institute Library Baltimore.

LOW JULIAN W

Plane table mapping. New York Harper & Brothers 1952 364 p illus. 20 cm. (Harper's geoscience series Carey Croneis, editor) $4.50 1858

Contents: Concepts and definitions. Elementary plane table surveying. Plane table triangulation. Small and intermediate scale mapping. Large-scale mapping. Reconnaissance mapping. Adjustments of instruments. Care and repair of instruments. Characteristics of vertical aerial photographs. Plane table applications of vertical photographs. Drawing instruments and their uses. Methods and practice in map construction. Appendix. Index.

Note. A thorough textbook and handbook on the use of the plane table in the construction of engineering and geological maps. The treatment is well organized and the publisher has given the book an excellent format for its intended use. The author is a geologist on the staff of the California Company.

ROBINSON ARTHUR HOWARD

The look of maps an examination of cartographic design. Madison The University of Wisconsin Press, 1952 105 p illus. 24 cm. $2 75 1859

Contents: Toward a better cartography. The cartographic technique. Cartography as a visual technique. The importance of lettering. The style of lettering. The employment of lettering. Map structure. Map design. Color in cartography. The employment of color. A selected bibliography.

Note. As the subtitle indicates, this book is a study of the visual or graphic design aspects of maps. It is written for cartographers and others who may be concerned with the design of maps, and from this viewpoint it presents the current scientific knowledge of the legibility of type faces, the pertinent factors in color perception, etc. Selected bibliographies are included.

SHARP H. OAKLEY

Practical photogrammetry New York The Macmillan Company 1951 229 p. illus. 21 cm $3 75 1859a

Contents: Part I. Photogrammetry. Cameras. Perspective. Terrestrial photographic surveying. Aerial photogrammetry. Stereoscopic. Classification of maps. Control surveys. Planimetric and topographic details. Part II. Practical applications. Tilt and rectification. Flying along an aerial survey. Specifications for aerial photography and mapping. Appendix. Index.

Note. A compact, introductory survey of fundamentals, current techniques, and uses of photogrammetry written for engineering students and graduate engineers rather than for aerial photographers and specialists in photogrammetry. Among the 80 figures are numerous reproductions of photographs of plotting equipment and related devices. There is no bibliography.

SWANSON, L. W AND OTHERS

Topographic manual. Part II, Photogrammetry Washington D C. Government Printing Office 1949 570 p. illus. 26 cm. (United States. Coast and Geodetic Survey Special publication no. 249) $3.25 1860

Contents (abridged) Preliminary office procedures. Requirements for map accuracy. Outline of operations. Equipment and instruments for photogrammetric offices. Aerial photography by R. M. Berry. Coast and Geodetic Survey use of aerial photographs. Season and weather. Cameras and materials. Airplanes. Instruments, and accessories. General instructions for aerial photography. Flight planning. Photogrammetric theory by G. C. Tewinkel. Laboratory processing and records. Optical principles. The vertical aerial photograph. Tilt determination. Stereoscopy. The near-vertical photograph. Determination of the average scale. Radial plot procedures. Determination of photograph location. Control stations of photographs. Projection and grid construction. Control photographs with hand data. Radial plot assembly of nine-lens photographs with hand templets. Radial plot assembly of single-lens photographs. Map templets—with mechanical templets. Direct radial plotting. Orientation and manuscript delineation. Photograph interpretation.

adjustment for deflection. Three-point sextant fixes. Scaling of positions. Stereoscopic plotting instruments, by G. C. Tewinkel: The nine-lens method. The multiplex projector. The stereoplanigraph. Records and reports, by R. G. Jones: Records and reports for photogrammetric mapping. Smooth drafting and publication. Map revision. Coordination of photogrammetric and hydrographic surveys. Trimetrogon mapping. The Schneider stereoscope. Reference books. Index.

Note: The work describes, with appropriate illustrations, the methods of Coast and Geodetic Survey in the making of maps from aerial photographs. The publication is the second part of complete Topographic Manual being prepared by the Coast and Geodetic Survey Part (not yet published) contains the requirements and detailed instructions for field topographic surveys, including plane table surveys without using aerial photographs and photogrammetric field surveys made for the compilation of maps from aerial photographs.

THOMAS PAUL D

Conformal projections in geodesy and cartography Washington, D C. United States Government Printing Office 1952 142 p. illus. 26 cm. (United States. Coast and Geodetic Survey Special publication no. 251) Paper $0 60 1861

Contents (abridged) Mapping formulas: Mercator projection—transverse Mercator projection—oblique Mercator projection. Lambert conformal conic projection—one standard parallel—two standard parallels Stereographic projection—polar—meridian—horizon—polar coordinates for the stereographic projections of the sphere. Derivation of mapping formulas. Bibliography Index.

Note The mathematical formulas for the various projections named in the above table of contents are collected in the first 15 pages of this work for the convenience of those who are practically concerned with geodetic computations and cartography The remainder of the space is devoted to short account of complex variable theory and to derivations of the formulas. Short accounts of the history of each projection are included. The publication supersedes O. S. Adams, *General theory of the Lambert conformal conic projection*, Washington, D C., 1918, and includes material selected from several other publications of the Coast and Geodetic Survey

UNITED STATES. LIBRARY OF CONGRESS. MAP DIVISION

Three-dimensional maps an annotated list of references relating to the construction and use of terrain models. Compiled by Walter W Ristow Washington The Library of Congress, 1951 43 p. 26 cm. Paper $0.35 1862

Note The 234 references cited in this bibliography provide comprehensive listing of articles and books published from 1644 to June, 1951. Most of the references cover publications of the past ten or twenty years and describe the construction and use of terrain models made of plaster of Paris, plastics, and rubber. The entries are annotated and arranged alphabetically by author. A brief subject index is included.

STRESS ANALYSIS AND THEORY OF STRUCTURES

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on dynamic stress determinations. Presented at the Pacific Area National Meeting San Francisco California, October 11 1949 Philadelphia American Society for Testing Materials, 1950 61 p. illus. 23 cm. (Special technical publication no. 104) Paper $1.50 1863

Contents: Introduction, by H. D. Eberhart. Analysis and interpretation of dynamic records, by H. C. Roberts. Survey of pickups for dynamic physical measurements, by G. E. White. Selection of recording equipment for dynamic testing, by K. D. Swartzel. Some examples of dynamic testing in the field of materials and structures, by D. McHenry and H. K. Hosticka.

Note: A collection of original papers in which recently developed devices and techniques for the analysis of dynamic forces operating on foundations and structures are compactly described. The final paper includes an extensive bibliography

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on structural sandwich construction. Presented at the fifty fourth annual meeting American Society for Testing Materials Atlantic City N J June 21 1951 Philadelphia American Society for Testing Materials, 1952 114 p. illus. 23 cm. (Special technical publication no. 118) Paper $2.00. 1864

Contents: Introduction, by A. G. H. Dietz. Developments and trends in lightweight composite construction, by L. J. Markwardt. Sandwich construction in the elastic range, by H. W March. Strength of sandwich construction, by C. B. Norris. Compressive and torsional instability of sandwich cylinders, by G. Gerard. Paper honeycomb as core for structural sandwich construction, by E. W Kuenzi. Aluminum honeycomb sandwich construction, by T P Pajak. Some developments in structural sandwich building panels having inorganic cores, by G. M. Rapp. Fabrication techniques for structural sandwich constructions, by B. G. Heebink.

Note. Sandwich constructions consisting of thin strong facings bonded to lightweight cores are designed to provide strong light structures. These papers describe the composition, engineering properties, and methods of testing various types of "sandwiches." They have been prepared by experts in this field and report on experimental work conducted by the authors. Bibliographies and brief discussions are included. Of interest to structural engineers and architects.

BLEICH FRIEDRICH

Buckling strength of metal structures. With the collaboration of Commander Lyle B Ramsey Edited by Hans H. Bleich. New York McGraw Hill Book Company 1952 508 p 24 cm. (Engineering Societies monographs Ralph H. Phelps, consulting editor) $10 00 1865

Contents: Buckling of centrally or eccentrically loaded columns. The mathematical treatment of stability problems and the stability criteria. Buckling of centrally loaded columns by torsion and flexure. Lateral buckling of beams. Built-up columns and columns of variable stiffness. The stability of frameworks. The effective length of compression members in trusses and the stability of rigid frame structures. Stability of axially compressed bars elastically supported at specific points. Local buckling of plate elements of columns. Rectangular plates with longitudinal stiffeners. Stability of web plates of girders. Special problems in the design of ship plating. Author index. Subject index.

Note: The result of planned effort sponsored by the Bureau of Ships of the United States Navy to assemble reliable data on the analysis of fabricated steel structures under compressive loading. The literature of the subject has been surveyed, critically evaluated, and useful data and methods have been synthesized to form manual for practical use by graduate engineers. Not only are the larger aspects of the subject, such as are mentioned in the chapter titles, covered, but there are also discussions of many small points, such as the safety factor in short columns as compared to long columns. The methods and formulas presented are particularly applicable to the design of ship hulls and other heavy structures. The book is not intended for use in the design of light structures such as airplane frames.

COX, GLEN NELSON AND OTHERS

Strength of materials By Glen N Cox, Frank J Germano and John H. Bateman. New York Pitman Publishing Corporation, 1951 408 p. illus. 24 cm. $5.50 1866

Contents Stress and strain. Materials testing and properties of materials Riveted and welded joints: thin-walled cylinders and spheres. Torsion. Shearing force and bending moment in beams. Simple stresses in beams. Combined stresses. Special beams and beams of two materials. Deflection of statically determinate beams. Stat-

cally indeterminate beams. Columns. Fatigue of metals. Stresses caused by impact and energy loads. Curved beams. Appendixes: Moment-distribution method for continuous beams. Tables. Index.

Note: A clear explicit style and conformity to recently published experimental results and to major U. S. A. building codes are features of this introductory textbook. Current building techniques, such as the making of welded joints by shielded arcs, have been taken into account. The theory of columns is discussed in the light of Ryder's A rational explanation of column behavior, which appeared in 1948. Both the moment-distribution method and the theorem of three-moments for the solution of continuous beam problems are explained. A generous number of solved problems are included in the exposition.

DEN HARTOG JACOB PIETER
Advanced strength of materials. New York McGraw Hill Book Company Inc., 1952 379 p. illus. 24 cm. $8.50. 1867

Contents: Torsion. Rotating disks. Membrane stresses in shells. Bending of flat plates. Beams on elastic foundation. Two-dimensional theory of elasticity. The energy method. Buckling. Miscellaneous topics. Problems. Answers to problems. Index.

Note: A textbook designed for engineering college students who have completed an introductory course in strength of materials. The author describes it as an intermediate book designed to bridge the gap between elementary texts and advanced treatises on elasticity. It has been developed from material used in two courses offered to senior and graduate students at Massachusetts Institute of Technology.

DEN HARTOG JACOB PIETER
Strength of materials. New York McGraw Hill Book Company Inc., 1949 323 p. illus. 24 cm. $5 00 1868

Contents: Tension. Torsion. Bending. Compound stresses. Deflections of beams. Special beam problems. Cylinders and curved bars. The energy method. Buckling. Experimental elasticity. Problems. Answers to problems. List of formulas. Index.

Note. An introductory textbook for engineering college students who have completed an introductory course in mechanics. Though intended for use in a short course, the author has included more material than can be taught in such a course, thus giving instructors a choice of material. Special features include a full treatment of the Mohr's circle method for stresses and also for moments of inertia and strains, the use of cantilever formulae in the solution of beam problems, and brief accounts of the principles of photoelastic techniques and strain gages. The author is Professor of Mechanical Engineering in Massachusetts Institute of Technology.

FREUDENTHAL ALFRED M
The inelastic behavior of engineering materials and structures. New York John Wiley & Sons Inc. 1950 587 p illus. 23 cm. $9.50 1869

Contents (abridged): Part A, The structural aspect of mechanical behavior: The structure of matter. Structural theories of deformation. Part B, Mechanics of inelastic deformation. Mechanical variables. Linear behavior. Plasticity. Work hardening of polycrystalline metals. Creep and relaxation. Inelastic behavior under dynamic conditions. Fracture. Rheological behavior of suspensions and gels. Part C, Application of the mechanics of inelastic behavior: Plasticity. Work hardening and creep. Author index. Subject index.

Note: A contribution of considerable importance to the understanding of the behavior of engineering materials when they are stressed beyond the elastic limit. The subject has application to such techniques as the rolling of metals, the drawing of wires, the design of structural parts so as to avoid failure by fracture and creep. Basic physical principles interpreted in terms of the Bohr atom are emphasized, but there are frequent references to applications and testing methods. The book was developed from notes prepared for a graduate course at the University of Illinois, and its audience is graduate engineering students and practicing engineers.

FROCHT MAX MARK
Strength of materials a first course. New York The Ronald Press Company 1951 493 p. illus. 24 cm. $6 00 1870

Contents: Basic concepts. Statically determinate stresses in tension and bending. Statically determinate stresses due to internal pressure and torsion. Basic concepts of strain and axial deformation. The states of stress and strain at a point. The significance of static stresses and strains in design: photoelastic patterns. Shear and bending moments. Stresses in symmetrical beams. Failure under steady and alternating stresses. Torsion in circular shafts. Deflections of beams. Statically indeterminate beams. Columns and curved beams. Riveted joints and nonhomogeneous beams. Appendixes. Index.

Note: (1344) An engineering college textbook written by a well-known authority in photoelasticity and other methods of experimental stress analysis. The author has taken particular pains to emphasize the practical aspects of the subject and to describe contemporary methods. Among the numerous illustrations are a number of photographs of stress patterns obtained by photoelastic techniques. The book supersedes a text of the same title written by the author and M. C. Riggs, published in 1938. Only one chapter has been carried over from that book without extensive revision.

GRINTER, LINTON ELIAS
Theory of modern steel structures. Revised edition. New York The Macmillan Company 1949 2 vol. illus. 24 cm. Vol. I, $5.00 Vol. II, $5.25 1871

Contents: Vol. I, Statically determinate structures. Introduction. The theory of stress analysis. Industrial buildings. Industrial loading tests. Truss bridges—dead loading—highway loading—railway loadings. Lateral and portal bracing of bridges. The plate girder. Office and commercial buildings. Wind stresses in tier buildings. Index. Vol. II, Statically indeterminate structures and space frames. Analysis and design of indeterminate structures. Framed structures in space. Deflections of structures. Classical methods of analysis of indeterminate structures. Analysis of continuous frames by moment distribution. Analysis of continuous frames by balancing end angle changes. Influence lines and maximum moment curves for continuous, movable and long-span bridges. Analysis of arches and closed rings. Index.

Note: (1346) A successful introductory textbook for engineering colleges. It is used also for self-instruction and review by practicing engineers. Addressed to those who are preparing for careers in structural engineering, it provides not only reliable expositions of modern methods of stress analysis and structural design but, also, mentions outstanding names and structures in the development of structural engineering and pictures ancient and modern structures. Both graphical and algebraic methods of analysis are explained. Important revision and additions were made in preparing this edition.

HARRIS CHARLES OVERTON
Elementary structural design. Chicago American Technical Society 1951. 163 p. illus. 29 cm. $4 90. 1872

Contents: Fundamentals. Equilibrium. Centroid of an area. Moment of inertia. Simple stress and strain. Beams. Beams of standard section. Deflection of beams. Statically indeterminate beams. Reinforced-concrete floor slabs. Bending combined with tension or compression. Compression members. Structural connections. Answers to problems. Index.

Note: A home-study text that is exceptionally well written and well organized. The discussions are full and clear, and the author has included a generous number of worked examples. There are many illustrations—most of them diagrams—and also practice problems and review problems.

HARRIS CHARLES OVERTON
Strength of materials. Chicago American Technical Society 1949 212 p. illus. 29 cm. $4 90 1873

Contents. Introduction to strength of materials. Equilibrium of bodies. Simple stress and strain. Centroid of an area. Moment of inertia of area. Riveted, bolted, or welded joints. Stresses in beams. Bending moment combined with tension or compression. Shafts subjected to torsion. Bending moment combined with torque. Compression members. Repeated stress. Answers to problems. Index.

Note. An elementary text designed to acquaint engineering students with the fundamental principles and methods of analyzing and determining the strains and stresses in engineering materials, and the methods of adapting this knowledge to the design of structural and machine members. Special attention is given to the analysis and design of welded joints. The liberal use of worked examples, review problems, summaries, and illustrative diagrams makes the volume suitable for self-instruction as well as for study in organized classes.

HAYDEN, ARTHUR GUNDERSON AND MAURICE BARRON

The rigid-frame bridge. Third edition. New York John Wiley & Sons Inc., 1950. 240 p. illus. 24 cm. $6.00 1874

Contents: Principles of the rigid-frame bridge. Indeterminacy Theory of indeterminate analysis. Calculations for symmetrical single-span concrete frame bridge, hinged-end conditions. Calculations for unsymmetrical *single-span concrete frame bridge.* Calculations for symmetrical single-span steel-girder frame bridge. Theory and design of double-span frame bridge. Theory and design of skewed concrete frame bridges. Practical points of design and construction. General notes on rigid-frame bridges. Research in rigid-frame bridges. Architecture of short-span bridges.

Note: (1437) The principal engineering book on type of bridge which is much used these days to carry roads and streets over parkways and other arterial highways. The book is addressed to engineers who are concerned with the design of such bridges. The important changes made in preparing this edition include new simplified method for the analysis of skewed arch and frame bridges. The illustrations include photographs of several of the rigid-frame bridges constructed over the parkways of Westchester county in the state of New York.

HETÉNYI MIKLÓS IMRE, editor

Handbook of experimental stress analysis. New York John Wiley & Sons, Inc. 1950 1077 p. illus. 23 cm. $15 00 1875

Contents: Mechanical properties of materials, by C. W MacGregor. Testing machines, by J Marin. Mechanical gages and extensometers, by L. H. Donnell and W T Savage. Optical methods of strain measurement, by J. L. Meriam. Electrical-resistance gages and circuit theory by C. O. Dohrenwend and W R. Mehaffey. Electro-inductance gages, by B. F Langer. Electric-capacitance gages, by B. C. Carter and others. Motion measurements, by J. Ormondroyd and others. Strain rosettes, by J H. Meier. Working stresses, by C. R. Soderberg. Residual stresses, by O. J. Horger. Methods of crack detection, by C. Lipson. Interpretation of service fractures, by R. E. Peterson. Brittle models and brittle coatings, by M. Hetényi. Structural model analysis, by J R. Wilbur and C. H. Norris. Analogies, by R. D. Mindlin and M. G. Salvadori. Photoelasticity: Fundamentals and two-dimensional applications, by T J Dolan and W M. Murray. Three-dimensional photoelasticity by D. C. Drucker. X-ray analysis, by C. S. Barrett. Appendices: Fundamentals of the theory of elasticity by S. P Timoshenko. Dimensional analysis, by J. N. Goodier. The precision of measurements, by M. Hetényi. Index.

Note: This work is comprehensive handbook of information on all of the important techniques of experimental (as contrast to mathematical) stress analyses which are currently of interest to engineers. In the typical chapter essay" information on basic principles, uses, and limitations of the particular technique under discussion is combined with tabulated data, pertinent illustrations, and an extensive bibliography of related literature. Most of the authors are engineers associated with manufacturing corporations or are professors of engineering in outstanding schools of technology. The book is addressed primarily to graduate engineers.

HICKERSON THOMAS FELIX

Statically indeterminate frameworks. Third edition. Chapel Hill The University of North Carolina Press 1949 202 p. illus. 29 cm. $5.00 1876

Contents: Part I, Members with constant moment of inertia: Preliminary considerations. *Fixation factors and bending moments.* Analysis of continuous beams and frames—no sidesway—full sidesway. Building frames—vertical loads—horizontal forces. Part II, Members with variable moment of inertia: Bending moments and fixation factors. Beam deflections. Appendices: Tables. Tall building frames subjected to wind forces—analyses by approximate methods. Derivation of formulas for beam and load coefficients.

Note: (1397) *A presentation of original methods. The first edition* appeared in 1934 under the title *Structural frameworks*, and the second edition appeared in 1937 with the same title as the present edition. The analytical methods have been extended and refined in each successive edition. The third edition is careful revision in which some material that appeared in the second edition has been omitted, and new analytical methods for trapezoidal frames and bents and for determining wind moments in tall building frames have been added. Also new tables and new worked examples have been inserted here and there. The book is of interest to graduate engineers as well as to students.

LEE, GEORGE HAMOR

An introduction to experimental stress analysis. New York John Wiley & Sons, Inc., 1950. 319 p. illus. 23 cm. $5.50. 1877

Contents: An introduction to the theory of elasticity. *Stress determinations from strain measurements. Structural similitude. Strain* gages. The variable resistance wire strain gage. Photoelasticity—optical apparatus. Photoelasticity—experimental procedure. Analogies. The brittle lacquer method. Miscellaneous methods in experimental stress analyses. Experimental considerations. Name index. Subject index.

Note: A survey of currently practical methods without undue emphasis on any one method. The contents were developed from notes prepared by the author used in the course at the United States Naval Postgraduate School, and the book is intended for readers with previous education in engineering. Specific techniques and testing instruments are both described. In many instances pictures of the instruments are included. Each of the chapters concludes with well-selected bibliography of the international literature.

MURNAGHAN FRANCIS DOMINIC

Finite deformation of an elastic solid. New York John Wiley & Sons Inc., 1951 140 p. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) $4.00. 1878

Contents: Vectors and matrices. The specification of strain. The connection between stress and strain. Isotropic elastic media. Non-isotropic elastic media. Simple shear and tension. Particular problems. Index.

Note: An important contribution to the literature of the theory of elasticity. In it, methods of analysis based largely on matrix algebra are provided for the computation of the small deformations that occur in solids under stress. These minute deformations are usually ignored in conventional design, but they are important in connection with the design of highly stressed structural members such as the rotor blades of gas turbines. In the final chapter, matrix algebra is applied to the solution of problems involving the compression of the spherical shell, circular tube, and the torsion of circular cylinder.

NADAI, ARPÁD

Theory of flow and fracture of solids. Second edition. Volume one. New York Mc Graw-Hill Book Company Inc. 1950. 572 p. illus. 23 cm. (Engineering Societies monographs, *Ralph H. Phelps consulting editor*) $11.00 1879

Contents (abridged) Part I, Deformation of solids, analysis of stress and strain. Elastic and permanent deformation. Behavior of matter under high pressure. The ordered and unordered states of matter. Crystalline structure in metals. Mechanism of plastic deformation in the grain structure. Theory of the tensile test. Mohr's representation of stress. Finite homogeneous strain without rotation. Finite plane strain. Vector geometry of stress and strain. Part II, The yielding of solids, particularly of the metals under simple states of stress. Rules in the new theories of flow of solids. Strain and flow figures. Compression. Torsion of round bar. Plastic bending of beam. Buckling after the yield point is exceeded. Part III, The elastic, the very viscous, the ideally plastic substance and some of their generalizations: Isotropic elastic solid. Steady slow flow of very viscous substance. Ideally plastic substance. Constrained flow of ideally plastic material. Theory of the plastic deformation of flat rings or disks. The problem of plastic torsion. The flow layers in twisted bars of mild steel. Theory of the surfaces of slip. Index.

Note: (1141) The author's *Plasticity* has been recognized for the past two decades as major contribution to the knowledge of the behavior of solids when strained beyond the elastic limit. Much work has been done in the field in recent years because of the pertinence of the subject to the design of the machines operating at high speed or under high pressures, such as gas turbines; consequently in the present revision under new title both the content and length of the original work have been extended to include phenomena associated with *fracture as well as that associated with plastic* deformation.

PARKER, HARRY

Simplified mechanics and strength of materials. New York John Wiley & Sons, Inc., 1951 275 p. 20 cm. $4 00 1880

Contents: Mechanics and strength of materials. Forces. Forces acting on bodies. Moments of forces. Stresses and deformations. Properties of sections. Shearing stresses in beams. Bending moments in beams. Continuous and restrained beams. Deflection of beams. Bending stresses, design of beams. Built-up beams of two materials. Columns. Rivets and welds. Torsional stress and shafts. Stresses in pipes and tanks. Reinforced concrete. Retaining walls and dams. Index.

Note. The sixth of Professor Parker's "simplified" books. Like the others, the matter in this book is not so much simplified as it is brief and clear. The book [illegible] purpose is to give craftsmen, engineering students, architects and others [illegible]ho need an understanding of mechanics and strength of materials [illegible] working knowledge that can be put to practical use. The topics have been carefully selected, and the exposition contains numerous worked examples. The mathematics employed includes only arithmetic and algebra.

PRAGER, WILLIAM AND PHILIP G HODGE, JR.

Theory of perfectly plastic solids. New York John Wiley & Sons, Inc., 1951 264 p 24 cm. (Applied mathematics series edited by I S. Sokolnikoff) $5.50. 1881

Contents Basic concepts. Trusses and beams. Torsion of cylindrical or prismatic bars. Plane strain problems with axial symmetry—general theory—specific problems—contained plastic deformation—limit analysis. Extremum principles. Author index. Subject index.

Note An introduction for senior and graduate students of engineering and applied mathematics. Some previously unpublished material on limit analysis is included, along with the published contributions of such scientists as von Kármán, von Mises, Nadai, and Prandtl. The mathematical level is best described in the authors' own words "The mathematical background expected from the reader is that necessary for advanced strength of materials or elementary theory of elasticity. The authors have attempted to refrain from indulging in mathematics for mathematics' sake. On the other hand they did not hesitate to use the mathematical tools and techniques best fitted for the problems under discussion

SECHLER ERNEST EDWIN

Elasticity in engineering Galcit aeronautical series. New York John Wiley & Sons Inc. 1952 419 p. illus. 24 cm. $8.50. 1882

Contents Part 1 Fundamental equations and analysis methods. Introduction. Uniform stress conditions. Non-uniform stress conditions. Stress conditions. Stress-strain relations. The stress function. Elastic energy principles. Part 2 Engineering problems in stable structures. Two-dimensional stress problems. Theory of simple beams. Continuous and redundant structures. The torsion problem. Stable plates and shells. Part 3 Engineering problems in instability. Columns. Beam columns. Instability of plates and shells. Index.

Note An intermediate level text for engineering college students and graduate engineers. Methods of analysis which have proved useful in connection [illegible]ith the design of aircraft structures are emphasized, but the usefulness of the methods covered [illegible] not limited to the aeronautical field.

SEELY FRED B AND JAMES O SMITH

Advanced mechanics of materials Second edition. New York John Wiley & Sons Inc. 1952 680 p illus. 24 cm. $8 50. 1883

Contents Part one Preliminary considerations. Analysis of subject. Elementary stress formulas for static loads. Stresses and strains at [illegible] point. Theories of failure by yielding. Part two Special topics on the strength and stiffness of members subjected to static loads. Shear center for [illegible] cross section of [illegible] beam. Unsymmetrical bending. Curved flexural members. Beam on continuous elastic support. Flat plates. Torsional resistance of bars having non-circular cross sections. Thick [illegible]alled cylinders. Contact stresses. Part three. Localized stress—stress concentrations. Values and significance of localized stresses in various members. Part four Energy methods. Deflection of members and simp[illegible] structures by Castigliano [illegible] theorem. Deflection of members and simple structures by unit load or dummy load method. Forces and moments in statically indeterminate members and structures. Part five, Influence of small inelastic strains on the loading-carrying capacity of members: Effect of small inelastic strains in axially loaded members and in straight beams. Effect of small inelastic strains for combined bending and axial loads. Introduction to ultimate load analysis of statically indeterminate members. Part six, Introduction to instability—buckling loads. Buckling of cylindrical tubes under uniform external pressure. Appendixes. A brief introduction to the mathematical theory of elasticity. The elastic-membrane (soap-film) analogy for torsion. Properties of an area. Index.

Note: (3345) Although organized as [illegible] textbook with numerous problems for the reader to solve, the content of this book is sufficiently advanced and comprehensive enough to make it useful to graduate engineers. Somewhat more advanced methods are covered than are found in introductory books, and some more specialized problems are analyzed. The first edition was published in 1932 and was the work of Professor Seely alone. Though intended for the same audience as the first edition, the book has now been rewritten throughout and is essentially new. Although the theory of elasticity is not used in the body of the work it is outlined in the first appendix, and compared to the method of ordinary mechanics in the analysis of stresses and strains.

SLOANE, ALVIN

Mechanics of materials. New York The Macmillan Company 1952 468 p. illus. 24 cm. $5 50 1884

Contents. Introduction to mechanics of materials. Bending. The basic flexure theory. Corollary I—The longitudinal shear theory. Corollary II—The deflection theory. Violations of the limitations of the flexure theory. Torsion. Column theory. Combined loading. Elastic strain energy. Mechanical properties of materials. Additional uses of Mohr's circle. Appendix. Tables. Index.

Note A textbook for first courses in this subject in engineering colleges. It has [illegible] number of unusual features such as the introduction of Mohr's circle in the first chapter and frequent use of the concept in later exposition. The author is Associate Professor of Mechanical Engineering in Massachusetts Institute of Technology

SUTHERLAND HALE, AND HARRY LAKE BOWMAN

Structural theory Fourth edition. New York John Wiley & Sons Inc., 1950. 394 p. illus. 23 cm. $5 50 1885

Contents: Reactions and stresses. Graphic statics. Roof trusses. Truss and girder bridges. Long-span bridges. Lateral bracing and portals. Slope and deflection. Rigid frames. Wind stresses in tall building frames. Indeterminate trusses. Secondary stresses. Space frameworks. Index.

Note (3414) A long-established introductory text for engineering college students. It is concerned with the design of trusses, rigid frames, and space frameworks and omits more difficult structures such as the suspension bridge. There is some emphasis on the use of graphic methods in the solution of problems. The scope and arrangement are [illegible] unchanged from the preceding edition; but [illegible] fair amount of material has been added on such matters as the solution of compound trusses by means of the Williot Mohr diagram and the use of the theorem for virtual work in reaction and truss stress computations. The chapter on rigid frames has been considerably expanded.

SYMPOSIA IN APPLIED MATHEMATICS

Proceedings. Volume III Elasticity New York McGraw Hill Book Company Inc., for the American Mathematical Society 1950. 233 p. 26 cm. $6.00 1886

Contents. Approximate methods of solution of two-dimensional problems in anisotropic elasticity by I. S. Sokolnikoff. Some mixed problems in anisotropic [illegible]lasticity, by I. S. Sokolnikoff. Some mixed problems in [illegible] concentrated loading, by O. E. Hay. On unsymmetrical deformations of thin shells of revolution, by E. Reissner. On asymptotic integration in shell theory, by F. B. Hildebrand. Some recent applications of the theory of finite [illegible]lastic deformation, by R. R. Seth. Elastic stability of the facings of sandwich columns, by H. W. March. Dynamic loads on thin plates on [illegible]lastic foundations, by D. L. Holl. Kirchhoff's boundary conditions and the edge effect for elastic plates, by K. O. Friedrichs. Some problems in the bending of thin plates, by G. F. Carrier and F. S. Shaw. Prestressing [illegible] plane circular plates to stiffen it against buckling (abstract) by J. J. Stoker. The bending of thin elliptic plates, by C. L. Perry. New methods for the

estimation of torsional rigidity by A. Weinstein. Stress fields of axially symmetric shafts in torsion and related fields, by H. Poritsky. Stress analysis in elastic-plastic structures, by W Prager and P S. Symonds. Elastic plastic straining (abstract) by Sir R. Southwell. A graphical method for solving problems in plane plasticity by N Coburn. On stress discontinuities in plane plastic flow by E. H. Lee. References to papers by L. H. Donnell and others. Index.

Note: Collected in this volume are the papers presented at the third Symposium in Applied Mathematics, held at the University of Michigan in June, 1949. The papers illustrate applications of advanced mathematics to problems in elasticity and plasticity and in many instances describe recently developed methods of attack. Aside from four exceptions, the texts are printed in full and are usually accompanied by bibliographies.

TIMOSHENKO STEPHEN AND J N GOODIER

Theory of elasticity Second edition. New York McGraw Hill Book Company Inc. 1951 506 p illus. 24 cm. (Engineering Societies monographs Ralph H. Phelps, consulting editor) $9.50 1887

Contents: Introduction. Plane stress and plane strain. Two-dimensional problems in rectangular coordinates. Two-dimensional problems in polar coordinates. The photoelastic method. Strain energy methods. Two-dimensional problems in curvilinear coordinates. Analysis of stress and strain in three dimensions. General theorems. Elementary problems of elasticity in three dimensions. Torsion of prismatical bars. Bending of prismatical bars. Axially symmetrical stress distribution in solid of revolution. Thermal stress. The propagation of waves in elastic solid media. Appendix: The application of finite difference equations in elasticity. Author index. Subject index.

Note: (34141) In this book the fundamentals of the theory of elasticity are presented, together with solutions of special problems and descriptions of approximate and experimental methods for solving elasticity problems. Because practical applications of the theory of elasticity are emphasized, consideration of matters of chiefly theoretical interest is omitted. Bibliographical references are given in footnotes for the benefit of those desiring to study special problems in more detail. The second edition is expanded by nearly 100 pages in comparison with the 1934 edition. The sections in the first edition dealing with the photoelastic method and thermal stress have been expanded and made into separate chapters presenting many methods and solutions not given in the original edition. An appendix has been added on the method of finite differences and its applications, including the relaxation method. New sections and paragraphs have been incorporated into other chapters.

VAWTER, JAMISON AND JAMES G CLARK

Elementary theory and design of flexural members. New York John Wiley & Sons Inc., 1950 215 p. illus. 23 cm. $4.50. 1888

Contents: Pure bending in homogeneous, symmetrical sections. Bending in nonhomogeneous, symmetrical beams. Elementary design of steel beams and girders. Elementary design of steel columns with bending. Elementary design of reinforced concrete beams and columns. Bending in unsymmetrical sections. Bending in special beams including those with thin webs. Appendix Illustrative design of floor in timber. Index.

Note: An engineering college textbook intended for use in intermediate courses offered to students who have had basic course in strength of materials. In effect it is first book in practical design and as such is of potential interest to architects, practical builders, etc., who need an introduction or refresher on the engineering aspects of elementary structural design. The authors are Professors of Civil Engineering in the University of Illinois.

WESTERGAARD HAROLD MALCOLM

Theory of elasticity and plasticity Cambridge, Mass. Harvard University Press, 1952 176 p illus. 22 cm. (Harvard monographs in applied science. No. 3) $5.00 1889

Contents: Scope Historical notes Stress. Strain, Hooke's law the basic equations of elasticity and the simplest possible laws of plasticity Stress potential and applications to hollow cylinders and spheres, inertia forces, and thermal stresses. Galerkin vector, twinned gradient, and applications including effects of single force. Index of authors Index of subjects

Note: The theory of elasticity (with some references to plasticity) is presented very concisely and on fairly advanced level in this book. Considerable attention is given to the historical aspects, not only in the chapter "Historical notes, but to some extent in other chapters also. The author himself is responsible for many advances in the application of mathematics to the solution of practical engineering problems involving elasticity and his book is the essence of lectures which he gave for many years at Harvard University where he was until his death Gordon McKay Professor of Civil Engineering.

WILLIAMS, CLIFFORD DAVID, AND ERNEST C HARRIS

Structural design in metals. New York The Ronald Press Company 1949 596 p illus. 24 cm. $7 00. 1890

Contents: Introduction. Rivets, bolts and pins. Welding. Selection of sections. Connections. Plate girders. Trusses. Bracings. Light gage structural members. Fatigue of structural members. The rigid frame. Appendices. Index.

Note: An engineering college textbook which has several interesting features. Equal attention is given to welding and to riveting as techniques for the joining of structural metals. The structural aluminum alloys are considered along with steel. The method of exposition is to explain the design of structural elements and details rather than complete structures, thus enabling the student to acquire knowledge which is applicable to all types of structures from roof trusses to frames for airplanes. The appendix contains useful standard information and specifications.

CONCRETE CONSTRUCTION

AMERICAN SOCIETY OF CIVIL ENGINEERS

Design of cylindrical concrete shell roofs. Prepared by the Committee on Masonry and Reinforced Concrete of the Structural Division through its Subcommittee on Thin Shell Design. Adopted October 21 1951 New York American Society of Civil Engineers 1952 177 p illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice. No. 31) $5.00 1891

Contents: Introduction. History of shell design theories. Design procedure. Design examples, long shells, simply supported. Design example, long shells, continuous over support. Design example, short shell simply supported. Design of transverse stiffeners. Effect of continuity of shell and transverse stiffener. Elastic stability of shells. Appendixes: References on the design of barrel shells. Theory Notation.

Note An authoritative manual with two expressed purposes: to facilitate the task of designing shells and to introduce the engineer to the mathematical theory of shell design. The first part on practical design runs to 99 pages and is supplemented by an 8-page bibliography. It contains numerous tables and charts which greatly reduce the amount of computation usually required in the design of this type of structure.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on use of pozzolanic materials in mortars and concretes presented at the first Pacific Area national meeting of the American Society for Testing Materials, San Francisco, Calif., October 10–14 1949 Philadelphia American Society for Testing Materials, 1950 203 p. illus. 23 cm. (American Society for Testing Materials. Special publication no 99) Paper $2.50 1892

Contents: Introduction, by T E. Stanton. Pozzolanic materials and their use in concrete, by R. E. Davis Pozzolans used in mass concrete, by H. S. Meissner. Experience with pozzolanic materials in Kansas, by C. H. Scholer and R. L Peyton. Effect of calcination on natural pozzolans, by R. C. Mielenz and others Effect of the use of diatomite treated with air-entraining agents upon the properties of concrete, by R. E. Davis and A. Klein. Summary of methods for determining pozzolanic activity by W T. Moran and J. L. Gilliland.

Strength, volume change and sulfate resistance of mortars containing portland-pozzolan cements, by R. E. Davis and others. Studies of some method of avoiding expansion and pattern cracking associated with the alkali-aggregate reaction, by W. C. Lerch. Studies of use of pozzolans for counteracting excessive concrete expansion resulting from reaction between aggregates and alkalies in cement, by T. E. Stanton.

Note: Most of the papers in this volume relate to work done in the western and middle western states of the United States, particularly California, Colorado, Kansas, and Illinois. The first presents general review of present-day knowledge of pozzolans, their effect upon some of the properties of concrete, and their use in concrete construction. The papers that follow deal in more detail with various aspects of the topic. Most of them contain bibliographies.

BAUER, EDWARD EZRA

Plain concrete. Third edition. New York McGraw Hill Book Company Inc. 1949 441 p. illus. 24 cm. $6.50 1893

Contents. Part Introduction. Standard Portland cement. Special cements. Mineral aggregates, admixtures, and water. Theories of proportioning. Applied proportioning. Factors affecting concrete strengths. Making of concrete. Placing, finishing, and curing concrete. Durability, workability and waterproofness. Field control of concrete. Specifications. Sampling. Testing. Part II. Instructions for performance of laboratory tests. Appendixes. Index.

Note. (1449) A standard engineering college textbook on plain (as contrasted to reinforced) concrete. It is combination of descriptive material and fundamental engineering information. The descriptive matter gives the book some value as general reference book on the subject for home owners, small contractors, etc. In the present edition discussions of several new important developments has been introduced. A considerable part of the older matter has been revised, and many new illustrations have been added. Revised specifications has been substituted for those which have been superseded.

DALZELL JAMES RALPH AND GILBERT TOWNSEND

Concrete block construction for home and farm. Illustrations by Arthur E Burke. Chicago American Technical Society 1952 216 p. illus. 22 cm. $2 75 1894

Contents. Mortar types, properties, and uses. Concrete characteristics and mixing. Concrete formwork. Design and construction of footings. Foundations and waterproofing. Concrete masonry. Index.

Note (1617*) A simple manual for farmers and other persons ho desire practical information on the building of farm buildings, dwelling houses, and other small structures of concrete blocks. It is based on the authors' more comprehensive *Masonry simplified*, Chicago, 1948, 1 The numerous illustrations include reproductions of many drawings showing structural details in three dimensions. Specific information is given on proportioning mortar waterproofing, etc., as well as on laying up the blocks.

KOMENDANT AUGUST E.

Prestressed concrete structures. New York McGraw Hill Book Company Inc. 1952 261 p. illus. 24 cm. $6.00 1895

Contents General considerations. Physical properties of materials used for prestressed concrete structures—steel—concrete—deformations. Theory of design of prestressed structures—changes of forces and stresses in prestressed structure due to shrinkage and plastic flow—method of design—illustrative problems—prestressed trussed beams—illustrative problems—prestressed trussed girders—prestressed shells—illustrative problems. Representative prestressed structures. Appendix. Index

Note The heart of this book is the 130-page third chapter, in hich the design of prestressed concrete structures is presented in practical manner for the use of graduate engineers. The two preliminary chapters present background information, and the final chapter contains illustrations and descriptions of prestressed concrete structures of arious types such as bridges, dams, and tanks. There are 130 figures and occasional footnote references to the source literature, mostly German.

LARGE GEORGE ELWYN

Basic reinforced concrete design a problems method approach. New York The Ronald Press Company 1950 340 p illus. 24 cm. (A volume of a series in civil engineering, Advisory editorial committee Lorenz G Straub and others) $5.50 1896

Contents Introduction. Beams. Bond, shear, diagonal tension and anchorage. Columns. Continuity. Buildings—design of beam and girder floors. Two-way and flat slab floors. Footings. Appendix. Index.

Note. An introductory textbook for college students of civil engineering which is organized for easy comprehension. In most of the chapters terms such as "bending moment" are explained concisely but clearly and the definitions are followed by series of worked examples of typical problems in reinforced concrete design. Problems for students to solve also are included. The illustrations include portraits of engineers who have made substantial advances in reinforced concrete design. The author is Professor of Structural Engineering in Ohio State University

UNITED STATES BUREAU OF RECLAMATION

Canal linings and methods of reducing costs. Washington, D C. Government Printing Office, 1952 69 p. illus. 23 cm. Paper $0.25 1897

Contents: Introduction. Types of canal linings. Concrete linings. Shotcrete linings. Asphaltic linings. Earth material linings. Membrane linings. Standardization of canal sections. Justification for canal lining. Seepage investigations. Appendix: Canal linings installed by the Bureau of Reclamation since 1946. Appendix: Summary of seepage tests.

Note Methods of reducing costs of concrete canal linings and development of new types of lining are notable technical achievements of the United States Bureau of Reclamation. This bulletin summarizes and brings up to date all available information on the lower cost canal lining program; presents the results of laboratory research, field installations, economic studies, and investigations of seepage measuring devices, describes new developments in equipment and methods of constructing lined canals, particularly those of small size; and gives current conclusions and recommendations as to the value of various types of linings and their suitability for use under various field conditions.

SOIL MECHANICS AND FOUNDATIONS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on consolidation testing of soils. Presented at the fifty fourth annual meeting, American Society for Testing Materials Atlantic City N J June 18 1951. Philadelphia American Society for Testing Materials, 1952 109 p. illus. 23 cm. (Special technical publication no 126) Paper $1 75 1898

Contents. Introduction, by D. M. Burmister. Report of consolidation tests with peat, by J. B. Thompson and L. A. Palmer. Consolidation and related properties of loessial soils, by W. G. Holtz and H. J. Gibbs. Settlement of railroad embankment crossing the Marguam floodway Louisiana, by W. G. Shockley and C. I. Mansur. Aids in the interpretation of the consolidation test, by H. Mitchell and R. F. Dawson. A rapid technique of consolidation testing, by R. H. Karol. The effect of temperature on the consolidation characteristics of remolded clay by F. N. Finn. Observed settlements of highway structures due to consolidation of alluvial clay by E. S. Barber. The application of controlled test methods in consolidation testing, by D. M. Burmister

Note. These papers describe and evaluate the various tests currently employed to determine the consolidation characteristics and behavior of soils under stress. The material has been prepared by professional civil engineers and is based both on laboratory research and practical experience in the field. As with most of the American Society for Testing Materials symposia, the discussions following each paper constitute vital part of the presentation.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on the identification and classification of soils. Presented at the fifty third annual meeting American Society for Testing Materials, Atlantic City N J., June 29 1950 Philadelphia American Society for Testing Materials 1951 91 p. illus 23 cm. (Special technical publication no. 113) Paper, $1 65 1899

Contents: Introduction, by C. W McAlpin. Identification and classification of soils—an appraisal and statement of principles, by D. M. Burmister. A standard classification of soils as proposed by the Bureau of Reclamation, by E. A. Abdun-Nur. Discussion of the classification of highway subgrade materials initiated by the Highway Research Board, by W F Abercrombie. Soil classification for highway purposes, by E A. Willis. Soil series named as basis for interpretive soil classifications for engineering purposes, by E. J. Felt. General discussion.

Note: These papers describe the techniques and procedures which are most widely used at present by engineers for identifying and classifying soils. The purpose of the symposium was to foster the elimination of differences in procedures and to encourage the acceptance of standard methods. The authors are experts in the field of soil mechanics and have had wide experience with the particular method described.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on surface and subsurface reconnaissance. Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City N J June 19 1951 Philadelphia American Society for Testing Materials, 1952 228 p illus. 23 cm. (Special technical publication no 122) Paper $3.00. 1900

Contents: Introduction, by C. W McAlpin and L. E. Gregg. Interpreting geologic maps for engineers, by E. B. Eckel. Engineering implications of geological reconnaissance in the Plains area—Missouri River basin, by E. A. Abdun Nur and J. D. Dowling. Preliminary foundation exploration in arctic regions, by L. A. Nees and A. M. Johnson. Preparation of county engineering soil maps for Illinois, by T. H Thornburn. The engineer looks at pedology by R. L. Greenman. Application of aerial photographs to preliminary engineering soil surveys, by R. D. Miles. The preparation of an engineering soil map of New Jersey by D. R. Lueder. Panel discussion on pedology and geology and air photo application. Earth resistivity tests applied to subsurface reconnaissance surveys, by R. W Moore. Earth-resistivity geophysical method as applied to engineering problems, by H. LeRoy Scharon. Geophysical measurements of the depth of weathered mantle rock, by D Woolland. The practical value of an earth resistivity method in making subsurface explorations, by W F Abercrombie. Application of seismic methods to foundation exploration, by A. M. Johnson and R. H. Worley. Experience with geophysics in New York State, by P H. Bird. Seismology applied to shallow zone research, by D. Linehan. Resistivity reconnaissance, by L. Rosman. Panel discussion on geophysical methods, including resistivity and seismic method. General discussion.

Note: These papers describe and evaluate the geological, geophysical, and photogrammetric techniques which may be applied in determining the physical characteristics and structure of surface and subsurface soils. The material has been prepared by experts in the above mentioned fields for the guidance of civil engineers concerned with the location, design, and construction of engineering works. Bibliographies are included.

CHELLIS ROBERT DUNNING

Pile foundations theory—design—practice. New York McGraw Hill Book Company Inc., 1951 680 p. illus. 24 cm. $14.00 1901

Contents (abridged): Basic principles of pile foundations. Pile-driving analysis. Hammer speeds, strokes, and driving stresses. Driving equipment. Selection of pile and methods of driving. Pile grouping and spacing. Structural design of piles. Wood piles. Concrete and pipe piles. Caisson-type piles and caissons. H piles and other metal piles. Sheet piling. Deterioration and preservation of piles. Solidification of soils. Pile load tests. Failures of pile foundations. Tables: Group I—Temporary compression figures. Group II—Operating data on hammers, extractors, and related equipment. Group III—Pile data. Group IV—Soil data. Group V—Jetting equipment data. Appendixes: Numerical examples using assumed data. Numerical examples using field data. Summary of comparative results of tests. Applications of methods of determining pile loads under eccentric loadings. Application of method of designing precast concrete piles. Pile inspector's reports and duties. Standard specifications. Bibliography. Index.

Note: A practical book which contains so much information that it is in effect an engineering handbook. It is useful not only in understanding and designing pile foundations but also in building them and protecting them after they are built. There are a wide range of engineering data and an adequate number of illustrations. The classified bibliography includes a list of catalogues of piles and pile-driving equipment. The author is associated with the Stone & Webster Engineering Corporation.

CRUM ROY WINCHESTER, AND OTHERS, editors

Soil exploration and mapping, presented at the twenty-ninth annual meeting, 1949 Highway Research Board Division of Engineering and Industrial Research, National Research Council. Editorial staff Roy W Crum, Fred Burggraf, W N Carey Jr Washington, D C. Highway Research Board, 1950. 121 p. illus. 25 cm. (Highway Research Board. Bulletin no. 28) Paper $1.50. 1902

Contents: Introduction, by F R. Olmstead. A system for designating map units on engineering soil-maps, by D R. Lueder. Drainage pattern significance in airphoto identification of soils and bedrocks, by M. Parvis. Maps for construction materials, by F E. Byrne. Development of geophysical methods of subsurface exploration in the field of highway construction, by R. W Moore. Influence of topographic position in airphoto identification of permafrost, by R. E. Frost and O. W Mintzer.

Note: The papers published in this bulletin bear on the status of geological and agricultural soil mapping in the United States of America and also describe methods whereby engineers may obtain from geological and soil maps and related sources of information such as aerial photographic information that is valuable in making terrain appraisals in advance of road building. Certain tables in the introduction supplement information on soil surveys published in the Board's *Bulletin no. 22*, described below.

CRUM, ROY WINCHESTER, AND OTHERS editors

The use of agricultural soil maps and the status of agricultural soil mapping in the United States, presented at the twenty-eighth annual meeting, 1948 of the Highway Research Board, Division of Engineering and Industrial Research, National Research Council. Editorial staff R. W Crum Fred Burggraf W N Carey, Jr Washington D C. Highway Research Board 1949 128 p. illus. 25 cm. (Highway Research Board. Bulletin 22) Paper $1.80. 1903

Contents: Review of the problem and a selected bibliography by F R. Olmstead. Status of county agricultural soil mapping in the United States—tabulation by states and counties. Use of agricultural soil maps in making soil surveys, by L. D Hicks. Significance of the soil survey report in the selection and preliminary assessment of sites for airplane landing strips, by O. R. Bodman.

Note: The cover-title of this bulletin is "Engineering use of agricultural soil maps." It gives information to enable highway engineers to make use of county soil maps and the soil profile method as sources of engineering data for soil survey work. The tabulation by states and counties shows the present status of agricultural soil

Strength, volume change and sulfate resistance of mortars containing portland-pozzolan cements, by R. E. Davis and others. Studies of some method of avoiding expansion and pattern cracking associated with the alkali-aggregate reaction, by W. C. Lerch. Studies of use of pozzolans for counteracting excessive concrete expansion resulting from reaction between aggregates and alkalies in cement, by T. E. Stanton.

Note: Most of the papers in this volume relate to work done in the western and middle western states of the United States, particularly California, Colorado, Kansas, and Illinois. The first presents a general review of present-day knowledge of pozzolans, their effect upon some of the properties of concrete, and their use in concrete construction. The papers that follow deal in more detail with various aspects of the topic. Most of them contain bibliographies.

BAUER, EDWARD EZRA

Plain concrete. Third edition. New York, McGraw-Hill Book Company, Inc., 1949. 441 p. illus. 24 cm. $6.50 1893

Contents: Part I. Introduction. Standard Portland cement. Special cements. Mineral aggregates, admixtures, and water. Theories of proportioning. Applied proportioning. Factors affecting concrete strengths. Making of concrete. Placing, finishing, and curing concrete. Durability, workability, and dampproofness. Field control of concrete. Specifications. Sampling. Testing. Part II. Instructions for performance of laboratory tests. Appendixes. Index.

Note: (1443) A standard engineering college textbook on plain (as contrasted to reinforced) concrete. It is a combination of descriptive material and fundamental engineering information. The descriptive matter gives the book some value as a general reference book on the subject for home owners, small contractors, etc. In the present edition discussions of several new important developments have been introduced. A considerable part of the older matter has been revised, and many new illustrations have been added. Revised specifications have been substituted for those which have been superseded.

DALZELL, JAMES RALPH AND GILBERT TOWNSEND

Concrete block construction for home and farm. Illustrations by Arthur E. Burke. Chicago, American Technical Society, 1952. 216 p. illus. 22 cm. $2.75 1894

Contents: Mortar types, properties, and uses. Concrete characteristics and mixing. Concrete formwork. Design and construction of footings. Foundations and waterproofing. Concrete masonry. Index.

Note: (1417*) A simple manual for farmers and other persons who desire practical information on the building of farm buildings, dwelling houses, and other small structures of concrete blocks. It is based on the authors' more comprehensive *Masonry simplified*, Chicago, 1948, 2 v. The numerous illustrations include reproductions of many drawings showing structural details in three dimensions. Specific information is given on proportioning mortar, waterproofing, etc., as well as on laying up the blocks.

KOMENDANT, AUGUST E.

Prestressed concrete structures. New York, McGraw-Hill Book Company, Inc., 1952. 261 p. illus. 24 cm. $6.00 1895

Contents: General considerations. Physical properties of materials used for prestressed concrete structures—steel—concrete—deformations. Theory of design of prestressed structures—changes of forces and stresses in prestressed structures due to shrinkage and plastic flow—method of design—illustrative problems—prestressed trussed beams—illustrative problems—prestressed trussed girders—prestressed shells—illustrative problems. Representative prestressed structures. Appendix. Index.

Note: The heart of this book is the 130-page third chapter, in which the design of prestressed concrete structures is presented in a practical manner for the use of graduate engineers. The two preliminary chapters present background information, and the final chapter contains illustrations and descriptions of prestressed concrete structures of various types such as bridges, dams, and tanks. There are 150 figures and occasional footnote references to the source literature, mostly German.

LARGE, GEORGE ELWYN

Basic reinforced concrete design: a problems method approach. New York, The Ronald Press Company, 1950. 340 p. illus. 24 cm. (A volume of a series in civil engineering, Advisory editorial committee: Lorenz G. Straub and others) $5.50 1896

Contents: Introduction. Beams. Bond, shear, diagonal tension and anchorage. Columns. Continuity. Buildings—design of beam and girder floors. Two-way and flat slab floors. Footings. Appendix. Index.

Note: An introductory textbook for college students of civil engineering, which is organized for easy comprehension. In most of the chapters terms such as "bending moment" are explained not only briefly but clearly, and the definition is followed by a series of worked examples of typical problems in reinforced concrete design. Problems for students to solve are included. The illustrations include portraits of engineers who have made substantial advances in reinforced concrete design. The author is Professor of Structural Engineering in Ohio State University.

UNITED STATES. BUREAU OF RECLAMATION

Canal linings and methods of reducing costs. Washington, D. C., Government Printing Office, 1952. 69 p. illus. 23 cm. Paper $0.25. 1897

Contents: Introduction. Types of canal linings. Concrete linings. Shotcrete linings. Asphaltic linings. Earth-material linings. Miscellaneous linings. Standardization of canal sections. Justification for canal lining. Seepage investigations. Appendix: Canal linings installed by the Bureau of Reclamation since 1946. Appendix: Summary of seepage tests.

Note: Methods of reducing costs of concrete canal linings and development of new types of lining are notable technical achievements of the United States Bureau of Reclamation. This bulletin gives the earliest and brings up to date all available information on the lower cost canal lining program, presents the results of laboratory research, field installations, economic studies, and investigations of seepage measuring devices, describes new developments in equipment and methods of constructing lined canals, particularly those of small size, and gives several conclusions and recommendations as to the use of various types of linings and their suitability for use under various field conditions.

SOIL MECHANICS AND FOUNDATIONS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on consolidation testing of soils. Presented at the fifty-fourth annual meeting, American Society for Testing Materials, Atlantic City, N. J., June 18, 1951. Philadelphia, American Society for Testing Materials, 1952. 109 p. illus. 23 cm. (Special technical publication no. 126) Paper $1.75 1898

Contents: Introduction, by D. M. Burmister. Report of consolidation tests with peat, by L. R. Thompson and L. A. Palmer. Consolidation and related properties of loessial soils, by W. G. Holtz and H. J. Gibbs. Settlement of a railroad embankment crossing the Morganza floodway, Louisiana, by W. G. Shockley and C. I. Mansur. Aids in the interpretation of the consolidation test, by R. Moduck and R. F. Dawson. A rapid technique of consolidation characteristics, by R. H. Karol. The effect of temperature on the consolidation characteristics of remolded clay, by F. H. Finn. Observed settlements of highway structures due to consolidation of alluvial clays, by E. S. Barber. The application of controlled test methods in consolidation testing, by D. M. Burmister.

Note: These papers describe and evaluate the various tests currently employed to determine the consolidation characteristics and behavior of soils under stress. The material has been prepared by professional civil engineers and is based both on laboratory research and practical experience in the field. As with most of the American Society for Testing Materials symposia, the discussions following each paper constitute a vital part of the presentation.

and moving structures. An introduction to the science of foundations. The White House. Appendices: Specifications (including payments). Legal aspects of underpinning and foundation work. Rates of pay. Glossary of terms used in underpinning. Index.

Note: (1447) This work has been the standard engineering treatise on the support of buildings and other existing structures while adjacent construction is going on since the publication of *Modern underpinning* in 1917. The title was changed to *Underpinning* in the edition published in 1931. The major change in the present edition is the addition of the chapter on the raising and moving of existing structures.

SOWERS, GEORGE B., AND GEORGE F SOWERS

Introductory soil mechanics and foundations. New York The Macmillan Company 1951 284 p illus. 24 cm. $4 75 1909

Contents: The nature of soils. The physical properties of soils. Soils and soil deposits. Seepage, drainage, and frost action. Foundations. Deep foundations. Problems in earth pressure. Construction of fills and subgrades. Stability of earth masses. Underground investigation. Index.

Note: A short, simplified treatment suitable for engineering college students and graduate engineers who want only a general working knowledge of the subject. Little mathematics is used and applications are stressed. The chapters are supplemented by good lists of references for those who need further information on specific topics.

SPANGLER, MERLIN GRANT

Soil engineering. Scranton International Textbook Company 1951 458 p illus. 24 cm. $7.00 1910

Contents: Introduction. The origin and nature of soil. The soil profile. Soil structure and texture. Soil density. Soil surveying and sampling. Soil water. Hygroscopic moisture and the colloidal fraction. Capillary water. Gravitational water and seepage. Flow nets and seepage forces. Soil-water consistency. Engineering soil classification. Frost action in soil. Granular soil stabilization. Thickness of flexible pavements. Stress distribution in soil. Consolidation and settlement of structures. Shearing resistance and strength. Stability of slopes. Embankments, levees, earth dams. Pressure on retaining walls. Bearing capacity. Piles and pile-driving formulas. Underground conduits. Index.

Note: A comprehensive introduction to soil topics that are of interest in civil engineering. The scope is wider than is usually embraced in soil mechanics, and the style is less technical than is typical of the basic works on soil mechanics. The book is organized as a college text. However, some practicing engineers may find it useful as a simple introduction to such topics as permafrost, especially in view of the selected reference lists that accompany the chapters. The author is Research Professor of Civil Engineering at Iowa State College.

TREFETHEN, JOSEPH MUZZY

Geology for engineers New York D Van Nostrand Company Inc. 1949 620 p. illus. 24 cm. $6 00 1911

Contents: Geology and engineering. Minerals. Rocks, an introduction. Igneous rocks. Rock weathering and the regolith. The consolidated sediments. Metamorphism and the metamorphic rocks. Geological structures. Geological field work. Geophysical exploration in engineering. Earth history. Geologic maps. The atmosphere. Subsurface water. Earth movements. Earthquakes. Streams. Dam sites and reservoirs. Soil erosion. Shorelines. The work of glaciers. Geologic interpretation of topographic maps and airplane photographs. Appendices: Sources of geologic information. The physical properties of some common rock types. Tables for the identification of some of the common minerals. Author index. Subject index.

Note: In this college textbook the aim is to give the student a broad background which will enable him to understand the geological problems involved in excavation work, foundation design, etc.; hence the highly developed geological applications of engineering, such as soil mechanics, are touched upon only incidentally. The book is well organized and clearly written. The illustrations are as effective as the text in relating geology to engineering.

TSCHEBOTARIOFF, GREGORY P

Soil mechanics, foundations and earth structures: an introduction to the theory and practice of design and construction. New York McGraw Hill Book Company, Inc. 1952 655 p. illus. 24 cm. (Civil engineering series, Frederic T Mavis, consulting editor) $7.50 1912

Contents: Special features of foundation and soil engineering. The formation of soils, geology, agricultural soil science, and civil engineering. Definitions and tests related to the properties of the solid soil particles. Definitions and tests related to the density and to the consistency of soils. Capillary phenomena. Permeability of soils. Ground-water movements. Frost action. The consolidation of soils. The shearing strength and the shearing deformation of soils. The stability of vertical cuts and of slopes. The stress distribution in soils. The bearing capacity of soils. Lateral earth pressures. The compaction and the stabilization of soils. Exploration and classification of soils. The selection of a suitable type of foundation. Spread foundations. Excavations. Pile and caisson foundations. Sheet piling. Underpinning. Earth-retaining structures. Cofferdams. Tunnels and conduits. Some soil engineering aspects of dam construction. Effects of vibratory and of slow repetitional loading of soils. Machinery foundations. Some soil engineering aspects of highway and airport construction. References. Name index. Subject index.

Note: An engineering college textbook in which the theoretical knowledge of soil mechanics gained in the last few decades is applied directly to practical problems in civil engineering. Although the main theme is practical application of the theoretical knowledge, the author makes it clear that the theoretical knowledge is not complete and that many problems in foundation design must still be solved empirically. Much attention is given to the techniques of field and laboratory testing. Many instances of structural failures due to the vagaries of soils are mentioned. The style is exceptionally clear and the book is well illustrated. The bibliography runs to 448 references. The author is Professor of Civil Engineering at Princeton University.

BUILDING

ARCHITECTURAL RECORD

Time-saver standards: a manual of essential architectural data for architects, engineers, draftsmen, builders and other technicians. Edition no 2 New enlarged edition. New York F W Dodge Corporation, 1950 884 p illus. 28 cm. $12.50 1913

Contents (abridged): Dimensions of the human figure. Mathematics. Weights of materials. Steel framing details. Fireproof floor systems. Brick masonry. Wood factory construction. Dry wall construction. Windows. Fireplace design. Stairs. Residential furniture sizes. Household kitchens. Bathrooms. Household closets. Apartment planning. Hotel bedrooms. Restaurant and bar design. Office and loft buildings—planning and equipment. Retail shops. Laundry equipment. Railroad station details. Bus terminal design. Cinema planning. Theater lighting. Community building planning. Hospitals. School design. Neighborhood shopping centers. Architectural acoustics, air conditioning and design data. Uniform plumbing code for housing. Residential lighting systems. Stage lighting. Escalators for department stores. Index.

Note: (1634a) A standard reference book of data useful to architects, draftsmen, builders, etc. Specific information is given on dimensions, planning and other architectural or engineering aspects of hundreds of building elements, types, techniques, etc. The material included ranges in complexity from dimensional outlines of household furniture to complete floor plans of hospitals. It is arranged under specific small subheadings, of which a few typical ones are given in the abridged contents above. The first edition was published in 1946. This edition contains all of the material published in the original edition and 241 pages of added material. All of the latter has been previously published in *Architectural record*.

BURBANK, NELSON LINCOLN

House construction details. Third edition. New York Simmons-Boardman Publishing Corporation, 1952 378 p. illus. 28 cm. $4 95 1914

Contents: Floor plans—sets of house plans. Excavations—foundation forms—foundations. Sills—girders—joists—sub-flooring. Outside

wall construction. Inside walls—wall sheathing—ceiling joists. Roof construction—lay construction—roofing. Cornices and porches. Exterior wall covering. Interior wall covering—interior trim. Stair construction. Windows. Doors. Hardware. Closets—shelves—built-in equipment. Finished flooring. Chimneys and fireplaces. Scaffolds and hoists. Garages. Insulation. Heating—air conditioning. Paints and finishing. Modern building materials. Prefabrication. Farm buildings—equipment. Better detail plates. Index.

Note. (3418) The outstanding feature of this practical manual for professional and amateur builders is the numerous scale drawings, diagrams, and photographs which illustrate typical methods, typical equipment, details, and construction. The word text is concise and is more or less limited to explanations of general principles. The book is intended to serve as a guide and idea book in the construction of new houses, the alteration of stock plans, and home remodelling. In this edition new material on prefabrication methods, building materials, heating, and insulation has been added. Approximately 70 plates of construction details have been added to the illustrative matter.

BURKE, ARTHUR E. AND OTHERS

Architectural and building trades dictionary by Arthur E. Burke J Ralph Dalzell, and Gilbert Townsend. Edited by Pearl Jenison. Chicago American Technical Society 1950. 377 p. illus. 22 cm. $6.00. 1915

Contents Preface. Dictionary. Memory refresher. Appendix. Abbreviations. Styles of home architecture. Legal terms.

Note An illustrated dictionary for architects, builders, carpenters, and contractors. Words and terms are defined briefly and clearly; pronunciation is indicated for selected words. The 344 pages of the dictionary proper contain 411 detailed illustrative figures, some of them full page size, as for example those for bolts, chimney lining, door designs. A useful book for those needing practical definitions of words, terms, and phrases in the building trades.

FRANKL, LEE

How to expand and improve your home the complete step-by-step illustrated guide for expanding altering and modernizing your home. By Training Thru Sight Associates Lee Frankl. New York Simmons-Boardman 1951 245 p. illus. 28 cm. $5 95 1916

Contents (abridged) Analysis of family needs. Finance. Finish the attic. Build shed dormer. Create storage areas. Divide room. Build porch and sun deck. Enclose the porch. Modernize the kitchen. Finish the cellar. Build garage and breezeway. Flashing with metal. Heating. Add wing and bathroom. Sound absorbing window treatment. Glossary of common building terms. Index.

Note A book of "projects" rather than comprehensive work on house remodeling. Its outstanding quality is an exceptionally high number of illustrations. The jacket blurb claims 1,225 drawings. Most of the illustrations are reproductions of line drawings, but few have been made from photographs. The book is intended mainly for persons planning to do the work on their own homes. There is no bibliography.

GRAF DON

Data sheets thousands of simplified facts about building materials, planning, and construction. Second edition revised and enlarged. New York Reinhold Publishing Corporation, 1949 809 p illus. 18 cm. $8.50 1917

Note: (3433) A manual of concise descriptions and tabulations of data on building materials and practices. Among the new entries in this edition are sheets on radiant heating, fluorescent and radiant-heat panels, fiber block insulation, magnesium oxychloride plastic flooring, asphalt shingles, cork block insulation, noise reduction, current uses of glass block, and underwater lighting of swimming pools. The layout of the pages has been changed and manufacturers' names have, in the main, been moved to a list of acknowledgements at the front of the book. The index has been expanded, but it has not yet been made according to good indexing principles.

HAUF, HAROLD DANA, AND HENRY A. PFISTERER

Design of steel buildings. Third edition. New York John Wiley & Sons, Inc., 1949 280 p. illus. 22 cm. $5.50 1918

Contents General considerations. Reactions, shear and bending moment. The design of beams. Riveted connections. Plate girders. Columns and struts. Roof trusses. Wind stresses in tall buildings. Welded construction. Building design project. Appendices. Index.

Note: An introduction to the basic principles of structural steel design written for students of architectural engineering and for the guidance of the beginning architect or engineer. The book deals specifically with the structural design of such types of buildings as apartment houses, offices, schools, etc. The treatment assumes a knowledge on the part of the reader of the elements of mechanics and strength of materials. Little change has been made in the scope or arrangement of this new edition. However a chapter on welded construction has been added, codes of practice and specifications have been brought up to date and the chapter on the design of beams has been extensively revised.

KELLY, BURNHAM

The prefabrication of houses a study by *the Albert Farwell Bemis Foundation* of the prefabrication industry in the United States. New York The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons Inc. 1951 466 p. 23 cm. $7 50 1919

Contents: Definitions. The development of the industry 1945–1947: great expectations and disappointments. The future of prefabrication. Introduction. Management. Design. Procurement. Production. Marketing. Conclusions. Appendices: Procedure. Companies and people visited. List of prefabricators. Annotated bibliography. Index.

Note An authoritative and detailed analysis of the history and contemporary status of the prefabricated housing industry in the United States of America. The main emphasis is on the managerial and business aspects of the industry rather than on manufacturing and structural details. Nevertheless, enough is included on structure to make the book worth reading by anyone interested in the technical aspects. A considerable part of the material in the volume is based on a field survey of the industry in the United States after World War II.

PHELAN VINCENT BALDWIN

Care and repair of the house. Washington, D C Government Printing Office, 1950. 209 p. illus. 23 cm. (United States. National Bureau of Standards. NBS circular 489) Paper $0.50. 1920

Contents: Inspection of the house. Foundation walls and basements. Exterior walls. Interior walls. Roofs. Floors and floor coverings. Doors and windows. Weatherproofing and insulating. Heating and ventilating. Plumbing and water system. Painting and varnishing. Electricity. Appendices: Closing the house. Minor items. List of tools and supplies. Check list. Selected references. Index.

Note Superseding publication BH15, this circular is both an enlargement and a complete revision of the original edition. It takes into consideration the introduction of new building materials and construction methods and advances in the design of mechanical equipment since the earlier edition was published in 1931. The purpose of the work is to assist homeowners and other persons who are responsible for the care and repair of dwelling houses. Maintenance, repair and improvement operations are covered. Regular inspection of all parts of the house is recommended, and a guide for such inspection is provided.

PLUMMER HARRY CUSTER

Brick and tile engineering handbook of design. Washington D C. Structural Clay Products Institute, 1950 392 p. illus. 24 cm. $5 00. 1921

Contents: Origin and manufacture. Modular coordination. Classification, size, color and texture. Properties of structural clay products. Mortar. Properties of brick and tile walls. Design of brick and tile walls. Brick and tile wall sections and details. Design of chimneys and fireplaces. Fireproofing and furring. Construction of brick and tile walls. Bonds and patterns. Bibliography. Index.

Note. A manual of descriptive and engineering data on brick and structural tile. Manufacturing operations are outlined in the first chapter but all the remaining chapters are devoted to discussion and to data useful to architectural engineers, architects, building contractors, and other persons who have practical interests in building with brick and structural tile. There is a fair number of illustrations, the majority of which depict standard structural details. The bibliography covers building codes, specifications and standards, as well as a selection of books and articles.

RAMSEY CHARLES GEORGE AND HAROLD REEVE SLEEPER

Architectural graphic standards for architects, engineers decorators builders and draftsmen. Fourth edition. New York John Wiley & Sons, Inc., 1951 614 p. illus. 30 cm. $11.50. 1922

Note: Since 1932, when the first edition appeared, this reference book has been accepted among architects, builders and draftsmen in the U S. A. and elsewhere as a standard authority on the structural details, symbols, and dimensions of contemporary building materials, building details, and furniture. In this edition it has been almost completely revised. About 63 percent of the plates are new and of the remainder 27 percent have been revised. The index alone now runs to 48 three-columned pages.

RICHEY, HARRY GRANT

A reference handbook for construction engineers, architects, builders, superintendents of construction and building construction foremen New Orleans, La. H. G Richey 1951 Distributed by Simmons-Boardman Publishing Corporation. 1640 p. illus. 18 cm. $9 95 1923

Contents (abridged) Personality and duties. Foundations. Waterproofing. Building stones. Stone, marble and tile work. Brickwork, architectural terra cotta, brick paving. Limes and cements. Mortar and concrete. Concrete construction. Fireproofing and fire prevention. Iron, steel, sheet metal, and roof work. Carpentry and woodwork. Timber and lumber. Lathing and plastering. Painting, varnishing, glazing, and paper hanging. Plumbing, piping, sewage disposal. Heating and ventilation. Electric wiring and various mechanical equipment. Hydraulics, strength etc., of materials. Drawing, laying out work. Squares, cubes, roots, mensuration. Useful information, receipts, etc. Glossary of engineering, architectural and trade terms. Index.

Note. A relatively new compilation that includes some information not found in the older handbooks of the kind. Although much of the information is what might be called "standard data," some of it is unusual in a handbook of this type. The miscellaneous material covers such matters as how to clean paint, how to hang window sashes with one weight, the best height for plumbing fixtures, and how to remove stains from concrete floors. The author was formerly associated with the United States Treasury Department in the construction of public buildings.

SEELYE ELWYN EGGLESTON

Data book for civil engineers—Design. Second edition. New York John Wiley & Sons Inc., 1951 521 p. illus. 30 cm. $10.00 1924

Contents (abridged) Structural—general—concrete—rigid frames—steel—aluminum—welding—wood—plywood—foundations—beam formulas. Soils. Earthwork. Roads. Railroad. Airports. Bridges. Dams. Docks and piers. Drainage. Sewage treatment. Industrial wastes. Water supply. Grandstands. Athletic fields. Outdoor swimming pools. Index.

—— —— Specifications and costs. Second edition. New York John Wiley & Sons, Inc., 1951 506 p. illus. 30 cm. $13.00. 1925

Contents (abridged) Contract documents. Site investigation. Structural specifications. Industrial buildings. Airports, roads, and railroads. Bridges. Docks. Dams. Drainage, sewers, sewage treatment and water supply. Swimming pool. Athletic fields. Costs. Glossary. Specifications index. Costs index. Glossary index.

Note. (1640*) A valuable reference book for the office libraries of civil engineers and for technical libraries frequented by civil engineers. It provides a wide range of information useful in the design of buildings and engineering structures and in the preparation of bids and contracts on engineering projects. The first edition appeared in 1945–46 and consisted of three volumes, the third of which was devoted to field practice. A fair amount of new material —fully noted in the prefaces—has been added in the second edition of the present volumes.

SHIMMONS, EARL W , compiler

Home building and repair short cuts. New York Simmons-Boardman Publishing Corporation 1952 201 p. illus. 28 cm. $4.50 1926

Contents: Staking out, form construction and foundations. Sills, girders, joists and subflooring. Walls and floor framing. Roof framing and bay construction. Brickwork, masonry and chimneys. Flashing, sewerage and gas fitting. Electric wiring. Exterior finish. Roofing. Cornices and porches. Interior finish. Stairs and step construction. Trimming windows. Fitting and hanging doors. Finishing floors. Closets, shelves and built-ins. Painting and varnishing. Screening. Garage and barn doors. Scaffolds, ladders and hoists. Short cuts in laying out work. Work benches and shop equipment. Portable equipment. Measuring and layout tools. Hammers, drills, planes and chisels. Hand and power saws. Miscellaneous tools. Index.

Note: This useful collection of construction and repair ideas first appeared in 1916 under the title *Kinks for the builder*. The edition preceding the present one appeared in 1940 and had the title *Practical job pointers*. The latest change in title indicates somewhat more emphasis on ideas of interest to the amateur builder and home mechanic. However there is still plenty of material for carpenters and other men who make their living in the building trades. As in the preceding edition the material has been selected from the "Technical guide" department of the *American-builder*. Many of the items in the present edition appear in the book for the first time, and some of those which appeared in the preceding editions have been dropped because they have become obsolete. There are approximately five illustrations per page and a detailed index.

TOWNSEND GILBERT AND J RALPH DALZELL

How to plan a house. Second edition. Chicago American Technical Society 1952 587 p. illus. 23 cm. $6 95 1927

Contents. Types of house architecture. Building lots. Orientation. Styling the house. Foundations and footings. Types of materials for walls, partitions, floor, roofs. Designing I beams and other steel support members. Strength of floors, roofs, walls. Standard sizes of materials and spacing parts. Working drawings required for a house. Planning various rooms. Planning floor plans. Designing elevations. Mechanical considerations. Details. How to keep plans within financial budget. Specifications. Illustrative example. Index.

Note. This book is both a text for practical students and a guide for those prospective homeowners who like to work out all the details of planning their own houses. Most aspects of the subject are at least touched upon, but the book is valuable chiefly for its wide range of information on structural details and the technical aspects of planning and construction. The first edition appeared in 1943. A fair amount of material has been added in this edition especially on the currently popular single-story house and on recently developed materials. Three chapters have been dropped. The number of illustrations has been increased.

WALKER, FRANK RABOLD

The building estimator's reference book a practical and thoroughly reliable reference book for contractors and estimators engaged in estimating the cost of and constructing all classes of modern buildings. Eleventh edition —illustrated. Chicago Frank R. Walker Company 1950 1780 p. illus 17 cm. $12.00 1928

Contents (abridged) Excavating, backfilling, trenching, well drilling, hauling, caissons, wood and concrete piles, sheet piling and bracing. Concrete breaking, pneumatic excavating, wrecking, drilling and rock blasting. Concrete footings, foundations and retaining walls. Reinforced and architectural concrete construction. Concrete masonry. Integral and membrane waterproofing. Brick masonry, glass blocks. Rubble stone, cut stone, granite and terra cotta. Rough carpentry and timber framing, hardwood and wood block flooring, wood roof trusses. Mill work and interior finish, wood stairs. Wallboard, insulation, sound deadening, building board and sheathing, corkboard insulation, weather strips. Painting, enameling and decorating, paper hanging. Glass and glazing, structural glass, metal store fronts. Roofing. Interior marble and structural slate. Tile floors, wainscoting and mosaics, terrazzo and composition floors and base, rubber tile and linoleum floors. Sheet metal work. Steel and aluminum windows, screens, storm windows and light industrial doors. Structural iron and steel. Electric freight and passenger elevators. Heating and air conditioning, furnace steam, hot water and vapor systems. Plumbing, sewerage and gas fitting, refrigeration. Electric wiring. Index.

Note The first edition of this book was published in 1913 and it has been a standard manual in the building trades in the United States of America since that time. It covers the estimating of the quantities and costs of materials and the hours of labor and wages for projected building operations. The field is covered in detailed fashion; for instance, there is information on such procedures as the backing and chipping of old concrete which must be removed—not a building operation but one which enters into the cost of numerous building modernizations. Aside from its main use the book is a source of information on the forms and dimensions of building materials. In comparison to the preceding edition published in 1947 this edition represents a very extensive revision in which many building materials are considered for the first time and the great increase in wage rates and other costs since World War II have been taken into account.

BUILDING ALLIED TOPICS

Babbitt Harold Eaton

Plumbing. Second edition. New York McGraw Hill Book Company Inc. 1950 644 p. illus. 24 cm. $6 50 1929

Contents Elements of plumbing. Hydraulics and pneumatics. Water supplies. Pumps and storage tanks. Water supply pipes in buildings. Hot-water, chilled water, gas, compressed air and vacuum supplies. Interior fire protection. Design and layout of drainage pipes, vent pipes, and traps. Installation of drainage and vent pipes. Sewage and drainage pumps and drains. Valves, faucets, meters, and other appurtenances. Materials, dimensions, and types of pipes, fittings, and equipment. Bathrooms, and bathroom and toilet room fixtures. Bathing, kitchen, laundry and other fixtures. Water treatment and sewage disposal. Maintenance and repairs. Heating. Appendixes. Glossary of plumbing terms.—Extracts from and references to standard specifications for plumbing materials and equipment.—Problems and drawings of incorrect plumbing for correction. Index.

Note A treatise on plumbing which is written on the engineering college level. The basic theory is covered in such chapters as that on hydraulics and pneumatics, but most of the space is given to descriptions of the elements of plumbing systems, and to practices which are in line with such codes as the *Plumbing manual* of the National Bureau of Standards and the *Housing code* of the Housing and Home Finance Agency of the United States Government. In connection with the descriptions of practices much engineering data are presented chiefly in the forms of graphs and tables. Although addressed more to sanitary engineers who will be responsible for the design of plumbing systems in public buildings, dwellings, etc., and to college students preparing for careers in sanitary engineering than to practical plumbers, the book does include much information of value to the latter group. The first edition was published in 1938. In preparing this edition the author thoroughly revised the book and added more than 200 pages of material.

Barrows William Edward

Light, photometry and illuminating engineering. Third edition. New York McGraw Hill Book Company Inc. 1951 415 p. illus. 24 cm $7.50 1930

Contents Light and vision. Photometric standards, units, and nomenclature. Sources of light. Gas, vapor and fluorescent lamps. Principles of photometry and photometers. Photometric measurements and illumination surveys. Light flux calculations and spherical photometry. Principles of interior lighting. Illumination calculations and design. Light control and application. Interior lighting practice. Lighting for sports and recreation. Principles of street and highway lighting. Lighting streets, highways, and airways. Problems. Index.

Note (4405) An engineering college textbook with a worldwide usage. It traces back to the author's *Electrical illuminating engineering* published in 1908. However in counting editions the publisher has started with that published in 1938. Each new edition has usually represented an extensive revision of the preceding one, and the edition at hand is no exception. A considerable part is new or extensively revised in comparison to the preceding edition (1938). The book is now an introductory and fairly comprehensive treatment on the engineering-college level. A good share of the text is descriptive and practical. A large group of the book's contents should prepare the reader to design common types of lighting systems.

Burbank Nelson L.

House carpentry and joinery. Fifth edition. New York Simmons-Boardman Publishing Corporation 1952 219 p. illus. 29 cm. $4 75 1931

Contents Tools and equipment. House plans. Excavations. Foundation forms. Foundations. Sills. Girders. Floor joists. Sub flooring. Outside framed walls. Inside framed walls. Framing framed work. Sheathing walls. Ceiling joists. Roof framing. Roof sheathing. Cornices. Roofing. Porch and bay framing. Exterior wall covering. Interior wall covering. Stairs. Interior trim. Windows. Doors. Hardware. Closets, shelving and built-in equipment. Finished flooring. Garage doors. Insulation. Finishing. Glossary. Ten practices for construction. Index.

Note (1437) A revision of the book formerly entitled *Carpentry and joinery work*. In its earlier editions it was designed primarily as a trade school textbook. In the present edition the emphasis has been changed somewhat in favor of the layman and amateur mechanic in search of practical information about building. Passages and sections addressed directly to students and apprentice carpenters—for instance, the chapter on tool lore—have been omitted and the book has been converted to a compendium of simple information on the structural details of dwelling houses, especially houses with wooden frames. A wide variety of illustrations occupies more than half of the space in the book.

Close Paul Dunham

Building insulation principles and application of heat and sound insulation for buildings. Fourth edition. Chicago American Technical Society 1951 407 p. illus. 22 cm. $4 95 1932

Contents Introduction. Types of thermal building insulation. Methods of application. Fundamentals of heat transfer through building materials. Transmission coefficients and tables. Calculating heat losses. Effect of heating loss alone on heating plant size. Fuel saving. Economics of insulation. Insulating efficiencies and expenses of fuel. Preventing condensation on interior surfaces. Preventing condensation within walls and ceilings. Insulation and comfort. Pipe and duct insulation. Sound insulation. Machinery isolation. Architectural acoustics and noise quieting. Insulating farm structures. Appendix: questions pertaining to building insulation. Index.

Note (1456) A standard reference book for the information of builders, engineers, architects, homeowners, etc. Also it is used to some extent as a textbook in trade school courses. In it are discussed the various kinds of heat and sound insulating materials, their uses and methods of application, trade names, names of manufacturers and related topics such as the economics of heat insulation. The third edition was published in 1946. In this edition much of the text is unchanged, but important revisions have been made in such parts as the chapters on condensation and in the lists of manufacturers and trade names.

Close Paul Dunham

How to insulate homes and farm buildings. Chicago American Technical Society 1952. 204 p. illus. 22 cm. $3 00 1933

Contents Introduction. Types of thermal building insulation. Methods of application. Fundamentals of heat transfer through building materials. Preventing condensation on interior surfaces. Preventing condensation within walls and ceilings. Insulation and comfort. Sound insulation. Insulating farm structures. Index.

Note A practical book addressed to homeowners and farmers rather than to architects and contractors. Adequate descriptions of

the types and varieties of insulating materials are given. Methods of application are also described, and in most instances the descriptions are detailed enough to serve the needs of readers who intend to apply the insulating themselves. However methods which require specialized equipment are described in general terms only. An example is the blowing of loose insulation into the walls of existing buildings. The book contains little if any information that has not been published before, but it is a handy compilation for its intended readers.

DUNLAP MATTHEW ELBRIDGE

Condensation control in dwelling construction, by Forest Products Laboratory Forest Service, U S Department of Agriculture in collaboration with the Division of Standardized Building Codes and Materials, Office of the Administrator Housing and Home Finance Agency Washington, D C. Government Printing Office, 1949 73 p illus. 23 cm. Paper $0.25 1934

Contents: Introduction. Factors in the condensation problem: Vapor barriers. Sheathing paper or sheathing. Ventilation. Thermal insulation. Good practice recommendations: Condensation control zones. Sizes of ventilators. Crawl spaces. Walls. Lofts or attics. Condensation control details. Appendixes: Methods for computing recommended amounts of insulation. Literature cited. Glossary of condensation and housing terms.

Note: How moisture condensation in the frames of dwelling houses may be controlled by means of vapor barriers and proper ventilation is the subject of this pamphlet. The methods described are based upon studies and observations made over a period of years on buildings involved in moisture problems. Pages 13–64 are occupied by drawings and specifications drawn by J. C. Killebrew covering various building details involved in condensation control. The publication is of interest to architects, builders, and home owners.

ILLUMINATING ENGINEERING SOCIETY

IES lighting handbook, the standard lighting guide. Second edition. New York Illuminating Engineering Society 1952 977 p illus. 23 cm. $8 00 1935

Contents: The physics of light. Light and vision. Standards, nomenclature, abbreviations, and symbols. The measurement of light. Color. Light control. Daylighting. Light sources. Lighting calculations. Interior lighting. Exterior lighting. Sports lighting. Street and highway illumination. Aviation lighting. Transportation lighting. Miniature lamp applications. Photographic, reproduction, projection, television and radar screen lighting. Miscellaneous applications of radiant energy. Appendix: Conversion factors for lighting units. Conversion equations for angular measure, temperature, power and pressure. Greek alphabet. Glare factors. Procedure for obtaining I.C.I. specifications from spectrophotometric curves. Central Munsell notations for each I.S.C.C.-N.B.S. color-name block. Tristimulus values of the spectrum. Brightness of various light sources. Procedure for computing coefficients of utilization. Constants for use in zonal method of computing luminaire flux from candlepower data. Nomograms for determining angle of incidence. Nomogram for obtaining zonal lumens from average zonal candlepower. Constants for converting beam candlepower of projector-type luminaires into lumens. Coefficient of utilization computation sheet. Multiplying factors for direct components of utilization coefficients. Calculations with line and surface sources. Complete aspects analysis. Equations of common curves. Areas of plane figures. Properties of the circle. Trigonometric formulas. Specular and diffuse reflection factors of common papers and ink. Manufacturers' data. Index.

Note: (1647*) A manual which provides essential information on light and lighting in simple terms and condensed style for the practical use of engineers, architects, contractors, and manufacturers. This edition is the result of a detailed review and revision of the first edition published in 1947. The work of revision was carried on largely by technical committees of the I.E.S. Over three-fourths of the material is new or revised. Two new sections are included, these on street and highway illumination and aviation lighting. A feature is the 172 page section of manufacturers' reference data containing data from 85 manufacturers on products supplied by them, the contents of which comply with the specifications and standards established by the Illuminating Engineering Society for such information.

KNUDSEN, VERN OLIVER, AND CYRIL M HARRIS

Acoustical designing in architecture. New York. John Wiley & Sons, Inc., 1950 457 p. illus. 22 cm. $7.50. 1936

Contents: Properties of sound. How we hear. Speech and music. Reflection and diffraction of sound in rooms. Open-air theaters. Sound-absorptive materials. Special sound-absorptive constructions. Principles of room acoustics. Acoustical design of rooms. Noise control. Reduction of air-borne noise. Reduction of solid-borne noise. Control of noise in ventilating systems. Sound amplification systems. Auditoriums. School buildings. Commercial and public buildings. Homes, apartments, and hotels. Church buildings. Radiobroadcasting, television, and sound-recording studios. Appendix: Coefficients of sound absorption. Tables of sound insulation data. Conversion factors and physical constants. Index.

Note: A practical guide intended for architects, students of architecture, and others who wish a non-mathematical but comprehensive treatise on the subject. The authors cover the technological principles of architectural acoustics and show how to apply these principles in practice. They emphasize that acoustical designing begins with the preliminary sketches on the drafting board and continues throughout all stages of planning and construction. Design data are presented in such a manner that the book can serve as a convenient reference in the solution of most problems encountered in architectural acoustics.

KRAEHENBUEHL, JOHN OTTO

Electric illumination. Second edition. New York John Wiley & Sons Inc. 1951 446 p illus. 24 cm. $8.00. 1937

Contents: Introduction. Objective specification of illumination. *Subjective specification of illumination. Color and shadow.* Illumination from point, line, and surface sources. Electrical incandescent and gaseous vapor-light sources. Light control. General illumination design (lumen method). Luminous architectural elements (lumen method). Floodlighting (lumen method). Novelty lighting. Maintenance and economics—automatic control. Wiring. Appendix. Index.

Note: (4411) A college textbook that is useful also to architects and other non-specialists whose work requires the understanding of the principles of illumination and the specifications of lighting systems. Commercial, industrial, and theatrical, rather than residential, lighting, are dealt with. In addition to discussions of the general principles of the subject, there is a wide variety of tabulated engineering data useful in design and specification work. There are numerous lists of references to other literature. The book has been rearranged, the type reset, and there is a substantial amount of new material in this edition.

MARCH C A.

Building operation and maintenance. New York McGraw Hill Book Company Inc. 1950 384 p. illus. 24 cm. $7.00 1938

Contents: Building management. Renting and collecting. Accounting. Purchasing and stock room control. Building organization. Making space layouts. Cleaning. Cleaning materials. Disinfectants and insecticides. Equipment and supplies. Elevator operation. Floors. Furniture and metalwork. Housekeeping. Fire prevention and protection. Safety precautions. Decorating. Electrical system. Elevator maintenance. Heating. Ventilation and air conditioning. Plumbing. Roofs. Structural maintenance. Landscaping. Index.

Note: A general introductory treatise in which the many aspects of operating and maintaining commercial buildings are covered in fair but not elaborate detail. The point of view is that of building superintendents or other persons in charge of operation and maintenance. There is considerably more emphasis on maintenance than on the accounting and legal aspects. The treatment of specific topics such as plumbing is much broader than can be found in books on these individual topics, but enough information is included for the orientation and general information of the intended readers. There is no bibliography.

MATTHIAS ARTHUR JOHN, JR.

How to design and install plumbing: materials and methods of standard practice. Revised by Esles Smith, sr Third edition Chicago American Technical Society 1952 444 p. illus. 22 cm. $3 95 1939

Contents (abridged): Municipal sewage disposal. Private sewage disposal. Materials used for sewer pipe and fittings. Joints in clay and iron sewer-waste and vent. The house sewer. The house drain. House drain appliances. Storm drainage. Soil pipe. Waste pipe. Traps used on plumbing systems. Ventilation. Soil, waste and vent pipe principles. Inspection and test. Water supply. Materials used for water distribution. The house water supply. Pumps and lifts. Cold water distribution systems in tall buildings. Domestic hot-water supply. Hot-water distribution systems. Cross-connections. Fire line installation. Plumbing fixtures. Questions pertaining to plumbing. Index.

Note: (4433) A practical book that has been widely used as a vocational school text and general source of information about plumbing practices since the appearance of the first edition in 1940. It covers both the plumbing of residences and of industrial buildings. A considerable range of material has been added in this edition. However it is obvious that the revision was handled so that as many as possible of the plates that were used to print the second edition could be used again. The result has been the retention of some outdated material.

MILLER, SAMUEL C.

Neon signs and cold-cathode lighting. Second edition. New York McGraw Hill Book Company Inc. 1952 395 p. illus. 24 cm. $6.00 1940

Contents (abridged): Part I, Fundamentals of luminous-tube manufacture. The luminous tube. Materials used in constructing tubes. Electrical equipment. The types of signs. Part II, Shop practice: Designing the sign. Glass bending. Pumping systems. Bombarding. Filling, testing, aging. Flashers and time switches. Radio and television interference. Installation and maintenance. Part III, Fluorescent lighting: Fundamentals and production of fluorescent tubes for lighting. Illumination design for fluorescent installations. Appendixes: Underwriters' Laboratories requirements for electric signs. Signs and outdoor display structures. Index.

Note: An established book for practical signmakers. The scientific principles of rare-gas luminous tubes are explained in a few pages, then the rest of the space is devoted to the materials and operations in signmaking. The writing is explicit and clear. The book is suitable for use as a self-instruction and as a shop reference book. The first edition was published in 1935. There are many changes in this edition, and two new chapters on fluorescent lighting.

PAINTING AND DECORATING CONTRACTORS OF AMERICA

Painting and decorating craftsman's manual and textbook. New York Theo Audel & Co 1949 430 p. illus. (part col d) 17 cm. $2 00 1941

Contents (abridged): Book one, Materials: Composition and properties of basic materials. Synthetic resins. Modern paint formulations. Other basic coatings and finishes. Book two, Brushes, equipment, safety, health: Brushes and bristles. Spray painting. Ladders, scaffolds and rigging. Mechanical appliances. Health. Book three, Painting specifications—practical procedure: Preparation of the surface. New exterior work. New interior work. Refinishing previously coated surfaces. Practical painting procedure. Marbleizing and graining. Wood finishing. Book four, Paint failures and their remedies: Factors that cause paint failures. Seasons for painting. Book five, Color: Color harmony. Color mixing and matching. Color and light. Psychology of color. Styling with painted color. Book six, Wallpaper. Book seven, Estimating. Book eight, Dictionary of trade terms. Book nine, Historical supplement.

Note: An official textbook of the sponsoring organization. It is designed for the instruction of apprentices who are learning the trade by combining classroom study with practical work. The discussions of some topics are rather brief, probably because they are intended to be supplemented by the personal instruction, but as a whole the book offers a wide range of practical information on materials and techniques. It should be useful not only to apprentices but to anyone who desires practical information about painting. It is patterned on *Painting and decorating working methods* (1932) but it has been so thoroughly revised and expanded that it is essentially a new work.

RAY, JESSE EDGAR

The art of bricklaying. Peoria, Illinois Charles A. Bennett Company 1950 240 p. illus. 22 cm. $4.00. 1942

Contents: The story of brick. Composition of brick. Lime, cement, mortars. Tools. Spreading mortar. Corners: raising a four inch corner. Raising an eight-inch American bond corner. Raising an eight-inch Flemish bond corner. Layout of corners in the various bonds. Important suggestions for the apprentice. Wall—speed exercises. Bonds and patterns in brickwork. Chimney construction. Special aspects of brickwork. Arch layout and construction. Brick details and construction. Advanced problems in ornamental brickwork. Photographs of excellent brickwork. Laying cement block. Scaffolding. Glossary of trade terms. Index.

Note: An introductory book written by a man with many years' experience in bricklaying. It is designed mainly for students in vocational classes and for apprentices, but the amateur can also pick up many points in it. The discussion is compact and is couched in the language of the bricklayer's craft. The short chapter on concrete blocks is designed for student bricklayers, and is not full enough to meet the needs of the beginning mechanic who does not know bricklaying first.

ROGERS TYLER STEWART

Design of insulated buildings for various climates. By Tyler Stewart Rogers assisted by Paul A. Siple Elmer Queer Howard T Fisher and John Hancock Callender New York F W Dodge Corporation 1951 119 p. 31 cm. $5 50. 1943

Contents: Part 1 Principles: Climate. Heat control. Vapor control. Ventilation. Part 2, Practice: Design data. Roofs or ceilings. Walls. Floors. Design calculations.

Note: An authoritative and up-to-date discussion of heat insulation for buildings. The author has made liberal use of charts, cutaway type drawings, and photographs. His text is lively and simple, but it contains the essential facts. The book is designed for architects and builders rather than for engineers, and should be very useful to its intended audience. Much of it is also within the grasp of laymen who wish to know the facts about home insulation.

SHARP HOWARD M

Introduction to lighting. New York Prentice-Hall Inc., 1951 334 p. illus. 22 cm. $6.65. 1944

Contents: Nomenclature. Basic concepts. Electric lamps. Ballasts, transformers, and starters. Control of light. Luminaries. Measurements of light and lighting. Candlepower distribution curves. Coefficients of utilization. Principles of lighting design. Vision. Offices and schools. Factories. Stores. Lighting design—specialized applications. Lighting cost analysis. Index.

Note: A practical book suitable for engineering college students and practicing engineers who desire only a working knowledge of lighting principles and design. A good deal of the text is descriptive, but the mathematics that might be needed by a practicing engineer or architect in designing lighting systems is included. The chapters are supplemented by literature references. There are a large number of illustrations and numerous tables of engineering data. The author is a member of the faculty of the University of Buffalo.

SIEGELE, HERMAN HUGO

The steel square. A practical treatment of the steel square and how it is used. Wilmette Ill. Frederick J Drake & Company 1951 184 p. illus. 23 cm. $2 50 1945

Contents (abridged): Roof framing table. Square and circle. Polygons. Simple roof framing cuts. Framing hips and valleys. Irregular plan roof. Irregular pitch roof framing. Backing hips and valleys. Various roof framing problems. Hopper boards. Determining cuts of steps. Service stairs. Rough horses. Hand railing. Winding and circular stairs. Concrete steps. Stair and other problems. Miter and squaring problems. Squares. Index.

Note: The steel square is a versatile instrument and few carpenters fully master it. This book, for all craftsmen who wish to extend their knowledge of the square, describes several hundred techniques in roof framing, stair layout, etc. For the most part the descriptions are explicit and detailed. There are 446 figures, each one of which is tied in with the textual discussion.

WILKES GORDON BALL

Heat insulation New York John Wiley & Sons, Inc., 1950 224 p. illus. 21 cm. $5.00. 1946

Contents: Purposes of heat insulation. Fundamental formulas. Methods of determining heat transfer coefficients. Factors affecting the coefficient of thermal conductivity Types of insulating materials. Reflective insulation. Specific heat of insulating materials. Moisture in insulation. Economics of insulation. Appendix: Coefficients of thermal conductivity Specific heat and thermal diffusivity Emissivity and reflectivity of various substances. Coefficients of heat transmittance for building walls. Calculated U values. Water-vapor permeability of various materials. Bibliography List of figures. Index.

Note: A compact summary of useful information on various aspects of heat insulation. The information included has application not only to the insulation of dwelling houses but to the insulation of refrigeration storage rooms and other structures where the insulation demands are more severe. The book is particularly valuable for the data it provides on such topics as reflective insulation, the effects of moisture, and the control of water vapor

ROAD AND RAILROAD BUILDING

American Association of State High way Officials

Standard specifications for highway materials and methods of sampling and testing. Sixth edition. Washington, D C. Published by the Association, 1950 2 vol. illus. 24 cm. $6.00 1947

Contents (abridged) Volume 1, Specifications: Hydraulic cement. Bituminous materials. Soils. Aggregates. Brick. Expansion joint fillers and asphalt plank. Culvert and sewer pipe. Bridge paints. Reinforcing steel and wire rope. Metallic materials for bridges. Miscellaneous. Volume 2, Methods of sampling and testing: Hydraulic cement. Bituminous materials. Soils. Aggregates. Concrete. Brick. Joint filler pipe, and asphalt plank. Metallic materials. Miscellaneous. Index.

Note: (1675*) A standard compendium revised periodically The previous edition appeared in 1947 Some of the specifications included are identical with those of the American Society for Testing Materials.

American Society for Testing Mate rials

Triaxial testing of soils and bituminous mixtures. A compilation of papers presented at the first Pacific Area national meeting, San Francisco Calif., October 10 1949 and fifty third annual meeting, Atlantic City N J., June 28 1950 of the American Society for Testing Materials. Philadelphia American Society for Testing Materials, 1951 303 p. illus. 23 cm. (American Society for Testing Materials. Special technical publication no. 106) Paper $3.50 1948

Contents: Introduction, by W G. Holtz. The history and theory of triaxial testing, and the preparation of realistic test specimens. report of the Triaxial Institute, by V A. Endersby Some concepts concerning triaxial compression testing of asphaltic paving mixtures and subgrade materials, by F N. Hveem and H. E. Davis. Application of the triaxial test to bituminous mixtures California Research Corporation method, by V R. Smith. Application of triaxial testing to the design of bituminous pavements, by N. W McLeod. Triaxial design correlated with flexible pavement performance in Kansas, by H. E. Worley Triaxial testing adapted to soils, flexible base, and foundations, by R. J. Hank. A triaxial apparatus for testing large soil specimens, by K. B. Hall. Shear testing at the Waterways Experiment Station, by S. J. Johnson. A triaxial shear investigation on partially saturated soil, by D. W Taylor. Shear characteristics of remolded earth materials, by A. A. Wagner. Application of triaxial compression test results to highway soil problems, by K. S. Barber and C. L. Sawyer The importance of natural controlling conditions upon triaxial compression test conditions, by D M. Burmister. Interpretation of triaxial compression tests on granular mixtures, by W S. Housel. General discussion.

Note: The method of testing which forms the central theme of this book is defined in Endersby's paper as follows: "the word 'triaxial' is applied to a form of mechanical test under which a load is applied axially to a cylindrical specimen, while a supporting pressure is maintained against its sides by water, air or other means. The stress-resistant properties of the material tested triaxially are derived from the relation between the testing load and the supporting pressure. Taken together the papers present the current status of this method of testing as applied to road materials in the United States of America.

Bruce, Arthur Garfield, and John Clarkeson

Highway design and construction. Third edition. Scranton Pa. International Text book Company 1950 734 p. illus. 23 cm. (International textbooks in civil engineering- Benjamin A. Whisler consulting editor) $7.50 1949

Contents (abridged) Highway administration. Highway location. Design of roads. Design of intersections. Low-cost roads. Bituminous surface treatments. Bituminous-macadam pavements. Portland-cement concrete pavements. Brick and block pavements. General highway and street maintenance. Estimates, contracts, and specifications. Control and testing of construction materials. Transportation surveys. Airport design. Appendixes: Bureau of Public Roads soil groups. Highway Research Board soil classifications. Classification of soils for airport construction—Civil Aeronautics Administration. Index.

Note: (1491) A standard engineering college textbook which has been thoroughly revised and modernized in this edition—the first on which Clarkeson appears as co-author. It is introductory but comprehensive enough to be of reference value in libraries. The presentation is only semi-technical, hence the greater part of the book can be readily understood by lay readers seeking information on highway engineering. Each chapter ends with a list of pertinent advanced literature. It should be noted that maintenance operations such as periodic oiling of dirt roads are covered, as are strictly engineering operations.

Crum Roy Winchester, and others, editors

Symposium investigations of the design and control of asphalt paving mixtures and their role in the structural design of flexible pavements by Corps of Engineers, Depart ment of the Army Presented at the twenty eighth annual meeting 1948 of the Highway Research Board Division of Engineering and Industrial Research, National Research Coun cil. Editorial staff R. W Crum, Fred Burg graf W N Carey jr Washington, D C. Highway Research Board, 1949 115 p illus. 25 cm. (Highway Research Board. Research report no 7 B) Paper $1.80 1950

Contents Introduction, by G. McFadden and W C. Ricketts. Selection of test equipment, by J. M. Griffith. Laboratory study of asphalt paving mixtures, by W K. Boyd. Asphalt stability test section, by C. R. Foster. Correlations of laboratory and field data, by W G. Shockley Detailed test procedures for design and field control of asphalt paving mixtures, by J. M. Griffith. The practical application of the design method of asphaltic mixtures to pavement construction, by W K. Boyd. Design of asphalt mixes as related to other features of flexible pavement design, by W J. Turnbull. List of references. Glossary of terms. Discussion by V R. Smith. Discussion by J T Pauls. Discussion by H. M. Rex. Discussion by R. C Herner. Discussion by W H. Campen.

Note: The papers here published present the results of an extensive study of asphalt paving mixtures by the Corps of Engineers, U S Army and comments thereon by highway engineers and other technicians. Most of the experimental work, including laboratory study field investigations, traffic tests, and the establishment of pavement criteria, was carried on by the Corps of Engineers Flexible Pavement Laboratory located at the U S. Waterways Experiment Station, Vicksburg, Mississippi. While the reported projects were directed toward the design of airfield pavements, the results obtained are also applicable to the design of road and street pavements, particularly those subjected to considerable traffic of heavy vehicles.

DISNEY, CHARLES P, AND ROBERT F LEGGET

Modern railroad structures. New York McGraw Hill Book Company Inc. 1949 213 p. illus. 26 cm. $6.00. 1951

Contents: Introduction. The application of soil mechanics in railroad work. Steel pile bridge piers and abutments. Rigid frame bridges. Precast concrete bridges. Solid-deck bridges and track details. Turntable design and redesign. Repair of concrete and masonry structures. New methods in concrete construction. Conclusion. Index.

Note: In this clearly-written, well-illustrated book a number of topics important to engineers who are concerned with the building and maintenance of railroad tracks and related structures are discussed. The discussions are brief, but they convey the modern approach to right-of-way engineering. Each chapter is accompanied by a list of selected references. Repair and rebuilding of existing structures occupies about 50 pages, the remainder are devoted to new construction.

IVES HOWARD CHAPIN

Highway curves. Fourth edition highway surveying, location, geometric design, and earthwork, by Philip Kissam. New York John Wiley & Sons Inc., 1952 197 389 p illus. 18 cm. $7.00 1952

Contents: Part I, Text The location procedure. The preliminary survey The location survey Simple curves. Compound curves. Reversed curves. Vertical curves. Spirals, superelevation, and widening. Cross sections. Volume computation. Haul and the mass diagram. Surveys for interchanges. Part II, Tables: Curves of even radius. Curves of even degree, arc definition. Searles spiral. Logarithms. Natural trigonometric functions. Functions of numbers. Conversions. Trigonometric formulas. Explanation of tables. Index.

Note: (1494) A standard work used both as an engineering college text and a field book. It presents the practices followed by the Highway Departments of the state governments and by the national government in laying out highway routes. The third edition appeared in 1941 This is the first edition by Professor Kissam, and it is a thorough revision in which important changes have been made in both the expository text and in the tables.

LABATUT JEAN AND WHEATON J LANE editors

Highways in our national life a symposium. Princeton New Jersey Princeton University Press, 1950 506 p illus 25 cm. $7.50 1953

Contents (abridged) Part 1 Historical The highway and the anthropologist, by J. O. Brew The highway system in the Near East from 3000 B.C. to 500 A.D. by E Herzfeld. The Roman Empire highway system, by M P Charlesworth. The early highway in America, to the coming of the railroad, by W J Lane. History of the modern highway in the United States, by S Miller Jr Part 2 Analytical The highway and social problems, by F R. Merrill. The fusion of urban and rural, by W Firey and others. The Pan American highway by J. L. Harrison. The highway from the point of view of the economist, by S. Peterson. The motor vehicle and the highway: some historical implications, by G. Rowney The relation of the highway to rail transportation, by J. H. Parmelee and R. E. F Moore. Freight transportation on the highway by W A Bromelein. Mass transit on the highway by L. Williams. The planning of the highway by G. D. Kennedy The design of highway intersections, by R. H Baldock. The highway as parkway by H. J. Keefe. Highway engineering, by L. I. Hewes. Highway construction, by H. C. Coons. Maintenance of the highway by S. O. Linzell and H. D. Metcalf. Visibility and highway lighting, by S. G. Hibben. Automotive safety on the highway by M Dawson. The service of the highway, by O L. Kipp. Summation, by J Labatut. Selected references. Biographical sketches of contributors. Index

Note In this book, prepared under the sponsorship of the Bureau of Urban Research of Princeton University the highway is viewed as an important element in the social structure Altogether there are forty-one chapters and the majority of them deal with historical or sociological aspects On the other hand, there are valuable chapters on technical aspects. These chapters that bear on highway engineering are limited more or less to practices in the U S. A., but the historical and sociological articles are of international interest. There is an extensive but not comprehensive list of references arranged by chapters.

RITTER, LEO JOHN, JR., AND R. J PAQUETTE

Highway engineering. New York. The Ronald Press Company 1951 721 p. illus. 24 cm. (A volume of a series in civil engineering, Advisory editorial committee Lorenz G Straub and others) $7.50 1954

Contents: Introduction. Highway administration. Highway economics and finance Highway planning. Geometric design of highways. Highway soil engineering. Drainage and drainage structures. Surveys and plans. Contractual documents and supervision of construction. Earthwork operations and equipment. Bituminous materials. Thickness design of flexible pavements and bases. Stabilized soil roads. Macadam roads. Bituminous surface treatments—and asphalt pavements. Road mix and intermediate-type bituminous plant-mix surfaces. High-type bituminous pavements. Portland cement concrete pavements—design—construction—brick and block pavements. Highway maintenance. Bibliography Index.

Note A textbook for junior and senior civil engineering students for colleges. Various phases of highway engineering are covered with some emphasis on the economic, legal, and administrative aspects. The nature and function of many major pieces of modern construction equipment are described. The bibliography lists 314 references.

SEARLES, WILLIAM HENRY, AND HOWARD CHAPIN IVES

Field engineering a handbook of the theory and practice of railway surveying, location and construction Twenty-second edition, by Philip Kissam. New York John Wiley & Sons Inc., 1949 2 v in 1 illus. 18 cm. $7.00 1955

Contents Volume 1, Text: The location of transportation lines. Reconnaissance. The preliminary survey and projecting location. The location survey Simple curves. Compound curves. Reversed curves. Turnouts and crossings. The spiral curves. Cross sections. Calculation of earthwork. Earthwork tables. Earthwork diagrams. Haul and the mass diagram. Construction. Track laying. String lining curves. Theory of maximum economy in grades and curves. Leveling under unusual conditions. Adjustment of instruments. Highway curves. Volume II Tables.

Note (1499) The first edition of this handbook was published in 1880, hence in its various editions it has served the needs of both students and practicing engineers for almost seventy years. Early editions dealt mainly with the location and building of railroads, and the emphasis is still on this subject; but the special problems of highway location and surveying are also covered. This is the first edition revised by Professor Kissam. The first chapter has been added, and important additions having to do with such topics as the preliminary survey aerial mapping, the two-base method for stadia altimetry the center-line method of staking out turnouts and yards, and vertical curves are found in other chapters.

APPLIED HYDROLOGY

AMERICAN SOCIETY OF CIVIL ENGINEERS. HYDRAULICS DIVISION HYDROLOGY COMMITTEE

Hydrology handbook. Prepared by The Hydrology Committee of the Hydraulic Division. Hydrology Committee Merrill Bernard, chairman. Subcommittees Precipitation. Merrill Bernard chairman. Infiltration S. W Jens, chairman. Runoff W B Langbein, chairman. Evaporation and transpiration. Adolph F Meyer chairman. Ground water storage Donald M. Baker chairman. New York American Society of Civil Engineers,

1949 184 p. illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice. No. 28) $3.00 1956

Contents. Historical summary Foreword. Precipitation. Infiltration. Runoff. Evaporation and transpiration. Ground water storage. Bibliography

Note: A manual of technical information and data on the behavior of water as it occurs in the atmosphere, on the surface, and underground. It was published as an aid to engineers concerned with the regulation, control, and utilization of water. The five chapters were prepared by five subcommittees of the Hydrology Committee, each covering a phase of the "hydrologic cycle." The 12-page bibliography is arranged to correspond to the chapters. The handbook should be of especial value to engineers planning flood control and water supply projects and designing land drainage and storm sewers. It is useful also as a source of information on the character and scope of hydrology for engineers outside this field.

JOHNSTONE, DON, AND WILLIAM P CROSS
Elements of applied hydrology New York The Ronald Press Company 1949 276 p. illus. 24 cm. $5.00 1957

Contents: Introduction. Collecting and presenting precipitation data. Collecting and presenting runoff data. Elementary relationships between precipitation and runoff. The role of the land. Analysis and synthesis of the hydrograph by unitgraph methods. Flood routing. Infiltration theory and the analysis of the hydrograph. The hydrograph as a function of drainage basin characteristics Applications of statistical analysis to hydrology Problems, questions, and special assignments. Subject index. Index of names

Note: A well-planned textbook designed for students of civil or other branches of engineering who do not plan to specialize in hydrology but who recognize the need of some knowledge of the subject. It provides a good general view of the field with emphasis on its applications and basic methods. A good part of the book is devoted to methods of recording, analyzing and synthesizing data, and to the application of statistical methods The unitgraph is discussed as a means for predicting time distribution of flow during flood periods.

LINSLEY RAY K. JR., editor
Annotated bibliography on hydrology 1941–1950 (United States and Canada) Prepared by the American Geophysical Union, National Research Council of the National Academy of Sciences, in cooperation with the Subcommittee on Hydrology Federal Inter Agency River Basin Committee. Washington, D C. Superintendent of Documents, 1952 408 p. 25 cm. (United States. Federal Inter Agency River Basin Committee. Subcommittee on Hydrology Bulletin no 5) Paper $1 75 1958

Note: A complete guide to the hydrologic literature published in the United States and Canada within the years 1941–1950. It is a continuation of the annual bibliography on hydrology issued by the American Geophysical Union from 1934 to 1940. The arrangement is by author; title, publication data, and brief annotation are given for each entry

LINSLEY RAY K JR. AND OTHERS
Applied hydrology by Ray K. Linsley, Jr., Max A. Kohler and Joseph L. H. Paulhus. New York McGraw-Hill Book Company Inc., 1949 689 p illus 24 cm. (Civil engineering series Frederick T Mavis consulting editor) $9.00 1959

Contents: Introduction. Climate Temperature in the atmosphere. Atmospheric humidity Winds Precipitation. Snow ice, and frost. Evaporation and transpiration. Streamflow The basin. Surface retention and detention and overland flow Soil physics. Sedimentation. Groundwater Hydrograph analysis. Runoff relations. Runoff distribution. Waves. Streamflow routing. Design criteria. Design and operation of water-control works. River forecasting. Appendices: Graphical correlation. Sources of hydrologic and meteorological data. Physical constants, conversion tables, and equivalents. Index.

Note: A rather inclusive work which is designed for use both as a text in engineering courses and as a reference book for engineers concerned with the design of highways, airports, storm-sewers, water supply projects, etc. Basic theory methods of collecting data, and equipment used are discussed, but emphasis is placed on the interpretation of data and practical applications. The treatment requires knowledge of simple statistical methods and of elementary calculus. The authors are associated with the Division of Climatological and Hydrologic Services of the U S. Weather Bureau.

MEAD DANIEL WEBSTER
Hydrology the fundamental basis of hydraulic engineering. Second edition, revised and enlarged, by Mead and Hunt, Inc., consulting engineers. Chapter on drought by Henry J Hunt. New York McGraw Hill Book Company Inc., 1950 728 p. illus. 23 cm. $8.00. 1960

Contents. Introduction. Water—its occurrence, utilization and control. Some fundamental theories. Winds and storms. Hydrography Atmospheric moisture and evaporation. Precipitation. Rainfall measurements and records. Annual rainfall in the United States and its variation. Seasonal rainfall in the United States and its variation. Great rainfalls. Droughts. Rainfall and altitude. Geological agencies and their work. Geology Ground water. Stream flow or runoff. Variations in runoff or stream discharge. Estimating runoff. Floods and flood flows. The application of hydrology Index.

Note: The general scope and arrangement of this text for engineering students differ little from the first edition published in 1919. Its purpose, now as then, is to provide a comprehensive review of the facts and principles regarding the properties and phenomena of water which must be considered in building dams, irrigation projects, public water works, and the like. Most of the illustrations and charts of the first edition have been retained, but the tabulated data have been brought up to date. A chapter on drought has been added and discussions of such topics as the Bergeron analysis of meteorological phenomena, evaporation theory artificial rainfall, and ground water are introduced. Some new references have been added to the chapter bibliographies.

MORGAN ARTHUR ERNEST
The Miami Conservancy District. New York McGraw Hill Book Company Inc., 1951 504 p. illus. 24 cm. $7 00 1961

Contents: The Miami valley The Miami river flood of March, 1913. Relief. Emergency government. Flood control. The Ohio conservancy act. Organization of the Miami Conservancy District. The official plan. The engineering staff. The appraisal and assessment. Preparing for construction. By-products and incidentals. Methods and policies of construction. Industrial relations. The construction period. As the years pass. The influence of the Miami Conservancy District. Bibliography Index of names. Index.

Note: The complete history of a major engineering undertaking is told in this book written by one of its chief engineers. The Miami Conservancy District, organized following the disastrous 1913 flood, has since that date protected the citizens of Dayton, Ohio, and vicinity from a repetition of flood conditions in the Miami river valley. The engineering, social, and legal aspects of this great flood-control project are all treated in full detail. A feature of the table of contents is that the author has there indicated the sections of the book of most interest to the general reader. The work is well illustrated with photographs, maps, plans, and tabulations. A comprehensive bibliography and adequate indexes conclude the book.

SUTTON JOHN G
Design and operation of drainage pumping plants. Washington D C. Government Printing Office, 1950 81 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1008) Paper $0.25 1962

Contents (abridged) Conditions for pumping. Relation of pumping plant to general plan of drainage Location of pumping plants. Foundation conditions—soil borings. Storage at suction bay Determination of static lifts. Determination of runoff to be pumped: Formula for maximum plant capacity Plant capacity for Louisiana and Texas. Plant capacity for Florida. Minimum runoff pumped. Selection of pumps: Priming equipment. Selection of power equipment. Design of building and accessory structures. Farm pumping plants. Tests of pumping plants. Operation of the pumping plant. Literature cited. Appendix.

Note: Superseding *Technical bulletin* no. 390 this bulletin provides recommendations for the design and operation of drainage pumping plants for all parts of the United States. Attention is given both to plants of larger size, as for drainage and levee districts, and of smaller size, useful for installation on individual farms either to drain low areas or to supplement irrigation systems. Included in the illustrations are tables and figures presenting technical data, photographs, drawings, and plans of pumping systems.

WISLER, CHESTER OWEN, AND E. F BRATER
Hydrology New York John Wiley & Sons, Inc. 1949 419 p. illus. (part col'd) 22 cm. $6.50 1963

Contents Introduction. The hydrograph. The drainage basin. Precipitation. Water losses. Infiltration. Ground water. Runoff. Floods. Stream flow records. Index.

Note: Knowledge of the basic principles and methods for obtaining data regarding fluctuation in stream flow flood conditions, rainfall and runoff, and of the processes governing the depletion and replenishment of water resources have become increasingly important in the fields of civil engineering, forestry and agriculture. This volume, planned for use as a college text and based on courses given at the University of Michigan, provides a comprehensive and up-to-date discussion of these principles and methods. The treatment assumes a knowledge of simple statistical methods and of the fundamentals of calculus. No formal bibliography is included, but pertinent literature is cited in footnote references.

SANITARY ENGINEERING

AMERICAN WATER WORKS ASSOCIATION

Water quality and treatment a manual prepared by the American Water Works Association. Second edition. New York American Water Works Association, Inc., 1951 451 p. illus. 24 cm. $5.00. 1964

Contents: Characteristics of available water sources. Organisms in water. Standards of quality. Pollution and self purification of surface water supplies. Control of impounding reservoirs. Aeration of water. Coagulants and coagulation. Mixing and sedimentation basins. Chlorination and other disinfection practices. Taste and odor control. Filtration. Scale and corrosion control. Softening. Occurrence and removal of iron and manganese. Treatment of water for steam generation. Chemical treatment of water for physiological benefits. Treatment plant control. Appendixes: The water supply library. American Water Works Association code of practice. Chemicals used in water treatment. Conversion equivalents for water. Index.

Note: (1100a) An authoritative treatment and reference book sponsored by the chief society in the water supply field in North America. Contemporary standards and practices are compactly described, and the descriptions are supplemented by selected references to the literature. The work is intended for water supply engineers and others who are professionally concerned with water purification and standards of quality for potable water. Important revisions and additions have been made in the present edition.

BABBITT, HAROLD EATON

Engineering in public health. New York McGraw Hill Book Company, Inc., 1952 582 p. illus. 23 cm. (McGraw Hill civil engineering series, Frederic T Mavis consulting editor) $8 00. 1965

Contents: Engineering in public health. Values and costs in public health. Public health administration. Disease and immunity. Epidemiology of communicable diseases. Biostatistics. Diseases transmitted by insects, the lower animals, and birds. Disinfection. Pesticides, poisons, and fumigants. Food sanitation. Milk. Water and the public health. Housing. Plumbing. Ventilation and heating. Light, sound, and odor. Sanitation of hospitals. Sanitation of city air. The city streets. The collection and disposal of municipal refuse. Industrial hygiene. Swimming pools and bathing places. Sewage and industrial wastes treatment. Pollution of surface waters. Rural and camp sanitation. Sanitary engineering in disasters. Index.

Note: This work is intended for the professional engineer practicing in fields related to public health. Although written for persons with basic education in civil engineering and with knowledge of water works and sewerage principles, little in the text would not be comprehensible to others with basic training in mathematics and the sanitary sciences. The book was developed principally from notes, references, and lectures used in graduate classes conducted by the author at the University of Illinois over a period of twenty years. It is a complete and detailed exposition of the subject, emphasizing the breadth of knowledge required by the sanitary or public health engineer. For the sake of brevity, discussions have been omitted of fundamentals in the major branches of professional engineering, such as the procurement of water and the collection of sewage. References are given at the ends of the chapters.

BABBITT HAROLD EATON AND JAMES J DOLAND

Water supply engineering. Fourth edition. New York McGraw Hill Book Company Inc., 1949 637 p. illus. 24 cm. $7.50. 1966

Contents: Introduction. Hydraulics. Demand for water. Ground water. Location, construction, and maintenance of wells. Rainfall and runoff. Dams. Intakes. Aqueducts. Stresses in pipe. Impounding reservoirs. Pumping stations. Steam and reciprocating pumping machinery. Electrical equipment. Centrifugal pumps. Well pumps. Miscellaneous engines and pumps. Materials for and the design of pipes. Valves, gates, hydrants, and meters. Metallic corrosion. Distributing reservoirs. Design of distribution systems. Construction and maintenance of distribution systems. Quality of water supplies. Interpretation of water analyses. Plain sedimentation. Coagulation. Sand filtration. Water softening. Disinfection. Miscellaneous methods of water purification. Appendixes. Outline of report on waterworks design. Problems. Index.

Note: (1502) An inclusive textbook on water supply engineering for use in civil engineering courses in engineering schools and colleges. Each topic is presented in detail with suitable examples and illustrations. Formulas are given where pertinent. 717 problems for solution are grouped by chapters in a section of 24 pages in the appendix. In this fourth edition the book has been revised, rearranged, and in part rewritten. Functional rather than structural procedures and practical applications rather than theoretical design are now emphasized; hence some of the theoretical material which appeared in the preceding edition has been dropped.

BESSELIEVRE EDMUND BULKLEY

Industrial waste treatment. New York McGraw Hill Book Company Inc., 1952 391 p. illus. 23 cm. $7.50. 1967

Contents: What constitutes a waste problem? Who starts a waste-treatment problem? The first steps to take in the solution. The place of the engineer or specialist. Cooperation between enforcing agencies, industrialist, and technicians. Factors in the solution of waste problems. The interests concerned in industrial-waste problems. Districts for industrial waste treatment. Sampling and analysis of wastes. Combining wastes from several plants to reduce costs. The pollutional effect of various wastes. Methods of waste treatment. Equipment for waste treatment and its selection. Coagulants and chemicals. Handling industrial wastes in municipal systems and charges therefor. Factors in the development of low-cost plants. Reuse of wastes and recovery of values. Appendixes. Author index. Subject index.

Note: Liquid wastes produced in industrial processes are discussed in this book primarily from the viewpoint of executives and engineers who are concerned with the disposal of wastes so as not to violate the law, pollute streams, and adversely affect public relations. There is of course some discussion of the public health aspects but this is subordinate. The general phases of the problems and the general methods of solving them are given most of the space, but the treatment of specific types of waste is described in the chapters entitled "Methods of waste treatment" and Reuse of waste and recovery of values. Bibliographies are included. Considerable attention is given to the reclaiming of water from liquid wastes for re-use in manufacturing processes and in cooling. The author is Chief Sanitary Engineer on the staff of the Dorr Company.

EHLERS, VICTOR MARCUS AND ERNEST W STEEL

Municipal and rural sanitation. Fourth edition. New York McGraw Hill Book Company Inc., 1950 548 p. illus. 23 cm. $6.50. 1968

Contents (abridged): Communicable diseases. Excreta disposal without water carriage. Excreta disposal with water carriage. Treatment of water. Protection of water supplies. Refuse disposal. Mosquito characteristics. Fly control. Rodent control. Milk sanitation. Food sanitation. Plumbing. Ventilation and air conditioning. Light. Housing. School sanitation. Industrial hygiene. Disinfectants and insecticides. Vital statistics. Public-health organization. Appendixes: How to make good concrete. Maximum allowable concentration values for various industrial poisons. Index.

Note: (1804) A successful college textbook. The first edition was published in 1927 and each revised edition has included improvements and additional material. A broad view is taken of the scope of sanitation; hence the inclusion of chapters on ventilation and lighting is appropriate. Besides its intended use, the book is suitable for reference use by practicing engineers, public health officials, and

in libraries. Many of the discussions have direct application to sanitation problems in rural areas and small villages. In preparing this edition the authors made many changes. New matter has been introduced at numerous places, and the total length of the work has been substantially increased.

HARDENBERGH, WILLIAM ANDREW

Sewerage and sewage treatment. Third edition. Scranton Pa. International Textbook Company, 1950 467 p. illus. 23 cm. (International textbooks in civil engineering, Benjamin A. Whisler, consulting editor) $6 50 1969

Contents (abridged) Hydraulics of sewers. Pipe sewers. Sewers built in place. Sewer appurtenances. Planning of sewerage systems. Design of sanitary sewers. Design of storm and combined sewers. Pumping of sewage. Construction of sewers. Records and estimates. Fundamentals of sewage treatment. Dilution and irrigation. Grit removal and screening. Sedimentation. Chemical treatment of sewage. Activated sludge process. Sludge digestion and disposal. Chlorination of sewage. Industrial wastes. Institutional waste treatment. Selecting the method of treatment and designing the plant. Operation of sewage-treatment plants. Typical design of sewage treatment plant. Index.

Note (1507) A standard text written by the editor of *Public works* magazine. The treatment is compact, and much attention is given to such practical matters as basic engineering data and construction details of sewer systems. The book has special application to the design of small plants. In this edition there are revised discussions of industrial wastes, trickling filters, and a few other topics. Citations to recently published literature have been added to some chapter bibliographies.

HARDENBERGH, WILLIAM ANDREW

Water supply and purification. Third edition. Scranton Pa. International Textbook Company 1952 516 p illus. 21 cm. $6 50 1970

Contents General considerations in planning water-supply systems. Consumption of water. Rainfall, evaporation, percolation, and absorption. Surface water. Ground water. Storage reservoirs. Distributing reservoirs. Gravity conduits. Pipe conduits. Pipe appurtenances. Laying pipe and maintaining lines. Planning the distribution system. Hydraulics of flow. Design of dead-end distribution system. Design of continuous-flow system. Pumps and pumping. Factors in water purification. Physical tests of water. Chemical analyses of water. Bacteriological examinations of water. Microscopical examination. Screening. Sedimentation and coagulation. Filtration. Disinfection. Removing dissolved minerals. Control of corrosiveness. Taste and odor control. Fluoridation of water. Water for industrial uses. Typical design of a treatment plant. Appendices. Index.

Note (1499*) An established textbook for engineering college students. It has a strong practical slant and is therefore used also by beginning engineers and operators of water plants. Operations such as the laying of pipe lines are described specifically and the descriptions usually include detailed procedures for sub-operations such as the testing of new lines for leaks. The preceding edition was published in 1945. In the present edition, the chapter on fluoridation of water is new and certain other chapters—for instance those on laying pipe, on maintaining lines, and on filtration—have been extensively rewritten. Recent literature has been added to the selected lists of references which appear at the ends of many of the chapters.

MOULTON, FOREST RAY AND FLORENCE HITZEL

Limnological aspects of water supply and waste disposal. Washington American Association for the Advancement of Science, 1949 87 p. illus. 24 cm. o.p. 1971

Contents: Microbiota of sewage treatment plants and polluted streams, by J. H. Wilson. Some epidemiological and biological problems in water-borne amebiasis, by S. L. Chang. Biotic response to stream pollution during artificial stream reaeration, by A. F. Bartsch and W. S. Churchill. A study of kraft pulping wastes in relation to the aquatic environment, by W. M. Van Horn. Plankton as related to nuisance conditions in surface water, by J. B. Lackey. Preliminary studies on the viability and dispersal of coliform bacteria in the sea, by B. H. Ketchum and others. The algologists' part in city and industrial water supply problems, by C. E. Taft. The use of copper sulphate for algal control and its biological implications, by J. B. Moyle.

Note A collection of original papers on topics that are of mutual interest to biologists and to sanitary engineers. The papers are limited, of course, to the specific topics named in their titles, but they are illustrative of areas within sanitary engineering where basic biological knowledge and techniques are of value. A majority of the papers are accompanied by literature references.

NORDELL, ESKEL

Water treatment for industrial and other uses. New York Reinhold Publishing Corporation, 1951 526 p. illus. 24 cm. $12.00. 1972

Contents. Industrial water supplies. Dissolved mineral matter. Dissolved gases. Turbidity, sediment, color, organic matter, tastes, odors and microorganisms. Water requirements. Boiler feed water. Cooling water. Aeration. Deaeration. Chemical feeders. Sedimentation, coagulation, settling, and filtration. Iron and manganese removal. Zeolite (sodium cation-exchanger) water softening process. Hydrogen cation-exchanger processes. Demineralization and deionization. Cold lime-soda water softening processes. Hot lime-soda water softening process. Silica removal. Appendix section. Index.

Note The treatment of natural waters in order to render them more suitable for industrial and domestic uses is a subject of wide interest. This is a comprehensive work on the subject with 120 tables of reference data, approximately the same number of illustrations, and long bibliographies. It is written on a professional level, and it is of interest to chemists, process engineers, and many others whose work involves the use of water in industry. The author is associated with the Permutit Company

PHELPS, EARLE B

Public health engineering a textbook of the principles of environmental sanitation. Volume II The food contact in collaboration with Walter D Tiedeman New York John Wiley & Sons Inc., 1950. 213 p. illus. 22 cm. $4.50. 1973

Contents The relation of food to disease. Food control administration. Milk production. Pasteurization of milk. Auxiliary processes and equipment. Plant layout. Milk plant inspection and control. Shellfish production and control. Public eating and drinking places. The handling and disposal of garbage, refuse, and municipal wastes. Rodent control. Index.

Note (1497*) The present volume is limited to the food sanitation phases of public health (the air and water phases were treated in volume I) and it may be read independently. The entire field of food in relation to public health is not covered. Instead, a considerable part of the book is devoted to the handling and control of such products as milk and shellfish. Particular attention is given to such matters as the design and sanitation of plants in milk handling plants. The work is of primary interest to professional workers in public health, especially those in charge of the inspection and regulation of places where food is processed and of restaurants.

MECHANICAL ENGINEERING

GENERAL

AMERICAN SOCIETY FOR METALS

Interpretation of tests and correlation with service a series of four educational lectures *presented to members of the ASM during* the thirty-second National Metal Congress and Exposition Chicago, October 23 to 27 1950 Cleveland The American Society for Metals, 1951 198 p. illus. 24 cm. $5.00 1974

Contents: Correlation of laboratory tests and service performance, by M. F Garwood and others. Limitations of mechanical testing, by M. [illegible]. Wear tests and service performance, by J. T Burwell. Corrosion tests and service performance, by F L. LaQue. Index.

Note: The papers in this book relate to the very important topic of correlations between laboratory tests and service performance. For example, in the first paper there are reports of detailed investigations of automobile steering knuckles, front suspension coil springs, and axle shafts. The lectures were addressed to professional metallurgists, but they are also of interest to mechanical engineers concerned with the design of machine parts. Each of the papers is accompanied by a list of references.

BURWELL JOHN T JR. editor

Mechanical wear being the proceedings of a summer conference on this subject held in June, 1948 at the Massachusetts Institute of Technology Cambridge, Mass Cleveland American Society for Metals 1950 287 p illus. 23 cm. $6 50 1975

Contents. Dimensional considerations in friction and wear, by C. F Taylor. Wear in diesel engines, by C. G. A. Rosen. Wear of automotive engines—cylinders and rings, by P S. Lane. Fuel and lubrication factors in piston ring and cylinder wear by A. G. Cattaneo and E. S. Starkman. Chemical aspects of wear and friction, by R. G. Larsen and G. L. Perry The vapor-lubrication of graphite in relation to carbon brush wear by R. H. Savage. The wear and damage of metal surfaces with fluid lubrication, no lubrication and boundary lubrication, by F P Bowden and D Tabor. Wear in steam turbines, by M. L. Mochel. The need for studies of "real" hydrodynamic lubrication, by R. W Dayton The dielectric strength of oil film in plain bearings, by C. M. Allen. Gear wear as related to the viscosity of the gear oil, by H. Blok. Surface deterioration of gear teeth, by J. O Almen. Recent roll tests on endurance limits of materials, by E. Buckingham and G. J Talbourdet. Hardness and its influence on wear, by E. Holm. Wear of metals against smooth refractory materials, by L. H Milligan. Friction and wear of some powder metallurgy bronzes, by J. Dedrick and J. Wulff. Summary of factors in the wear process, by J T Burwell, jr. Bibliography Index.

Note: The papers in this volume present a broad survey of research methods and current knowledge regarding the causes and control of wear of metals. The authors are specialists associated with universities, research institutions, and industrial corporations; and the material has been drawn from reports of laboratory investigations and studies of machines in actual service, as well as from published literature The book is generously illustrated, and there is a ten-page bibliography It is of interest to mechanical engineers in general and to lubrication experts and machine designers in particular.

DAYTON RUSSELL WENDT editor

Sleeve bearing materials. A series of educational lectures on sleeve bearing materials presented to members of the A. S. M during the twenty-eighth National Metal Congress and Exposition Atlantic City Cleveland American Society for Metals, 1949 256 p. illus. 23 cm. $5.00. 1976

Contents: Part I, The characteristics of bearing materials: Fundamental considerations concerning the behavior of bearings, by R. W Dayton. Some general comments on bearings, by C. E. Swartz. British thought and practice; how they differ from American, by W H. Tait. Discussion of paper by W H. Tait, by R. D. Hanna. Part II, Specific bearing materials: Newer bearing materials, by L. C. Knight and L. W Kirk. Aluminum alloy bearings—metallurgy, design and service characteristics, by H. Y Hunsicker. Porous metal bearings, by A. J. Langhammer Morlube Durex-100 engine bearings, by J. A. Lignian. Cast bronze bushings, by L. M. Long. Discussion of babbitt metal, by K. J. Shoemaker. Discussion of wrought (or rolled) bushings and bushing materials, by H. F Cash and others. Discussion of cast bronze bearings, by J. R. Tweeney Part III, Bearing structures and fabrication methods: Mechanical features of steel-backed bearings, by R. Crankshaw Lubrication, by E. Crankshaw and J. Mesarch. Bronze-backed bearings, by R. J. Kerry. Electroplated bearings, by R. A. Schaefer. Preparing cast iron surfaces for bonding, by J. H. Shoemaker Part IV Factors involved in the application of bearings The selection of bearing materials, by A. F Underwood. Aircraft engine bearings, by J. Palsulich and R. W Kerr. Selection of bearing materials in the electrical industry by D F Wilcock. Railroad journal bearings, by K. S. Pearce. Index.

Note. The papers collected in this book are addressed to metallurgists, engineers, and other men who have a practical interest in bearings and bearing materials. Several of them are supplemented by summaries of the discussion that followed their original presentation. Six of them contain lists of related literature.

KENT WILLIAM

Kent's Mechanical engineers' handbook *twelfth edition. Power volume* prepared by a staff of specialists J Kenneth Salisbury editor Design and production volume prepared by a staff of specialists Colin Carmichael, editor New York John Wiley & Sons, Inc., 1950. 2 vol. $8.50 per volume. 1977

Contents (abridged) Power volume Air by J. Kaye and others. Heat and heat exchange, by C. O. Mackey and others. Steam, water and ice, by J. K. Salisbury and others. Hydrodynamics, hydraulics, and pumps, by G. E. Barnes and others. Piping, by R. J Wiseman and others. Steam-generating units, by R. M. Powell and others. Steam turbines and engines, by A. G Christie and W Trinks. Condensers and cooling equipment, by K. S. Brundige and J. G. De Flon. Combustion gas turbines, by W A. Wilson. Refrigeration and ice-making, by B. H. Jennings. Heating, ventilating, and air conditioning, by J. W James and others. Internal-combustion engines, by E. W Anderson and others. Electric power by D. L. Beeman and others. Atomic power, by D Cochran. Instrumentation, by D. P Eckman. Index. Design and production volume: General properties of materials, by H. B Pulsifer and H. W Gillett. Corrosion and corrosion resistance, by F M Speller and H. H. Uhlig. Nonmetallic materials, by C. E. Austin and others. Mechanisms, mechanics, and machine elements, by V L. Doughtie. Vibration and noise control, by R. O. Fehr. Fasteners, by C. Carmichael. Mechanical springs, by A. M. Wahl. Machine hydraulics, by L. S. Linde-

rath, Jr. Gearing, by E. L. Crosthwait. Control mechanisms, by E. S. Smith and others. Metal melting and casting processes, by C. K. Donoho and others. Plastic working of metals, by K. C. Clarke and others. Joining of materials, by C. W. Obert and others. Dimensional control, by H. S. Slaer and others. Working of nonmetallic materials, by T. D. Perry and J. E. Fulson. Materials handling, by M. W. Potts. Index.

Note: (1526) A long-established reference book in mechanical engineering. The titles given above are those of sections. Each section contains several parts in which the fundamentals of a specific area of mechanical engineering are stated concisely and are supplemented with engineering data. This edition represents a thorough revision. Older material which has been carried over has been systematically revised and there is newly added material on such subjects as atomic power, gas turbines, jet propulsion, heat pumps, plastic materials, and statistical quality control.

LITTLETON, CHARLES T.

Industrial piping. Special chapter on estimating by R. A. Dickson. New York, McGraw-Hill Book Company, Inc., 1951. 394 p. illus. 23 cm. $9.00 1978

Contents: Flow sheets, plot plans, and design procedure. Steam piping. Valves. Water piping. Oil piping and the flanging formula. Gas, air, and instrument piping. Alloy piping. Miscellaneous piping materials. Insulation. Piping cost estimation, by R. A. Dickson. Index.

Note: A textbook and guidebook for industrial piping presenting the technical information on the subject needed by practicing pipe designers, erection foremen, and engineering students. The author has not attempted to cover the theoretical aspects of hydraulics, thermal expansion, and radiation, but sets forth practical methods commonly in use for solving such problems as the sizing of pipes and the determination of pressure drop. Much information is presented in tabular form. It is assumed that the user of the book has command of algebra and elementary physics.

MARKS, LIONEL SIMEON, editor

Mechanical engineers' handbook. Fifth edition. New York, McGraw-Hill Book Company, Inc., 1951. 2236 p. illus. 24 cm. $15.00. 1979

Contents: Mathematical tables. Weights and measures. Mathematics. Mechanics of solids. Friction. Mechanics of fluids. Thermal properties of bodies and thermodynamics. Transmission of heat by conduction, convection, and radiation. Mechanical properties of materials. Mechanics of materials. Vibration problems. Iron and steel. Non-ferrous metals. Fuels. Gas producers and gas cleaning. Industrial furnaces. Machine elements. Gearing. Bearings. Pipes and pipe fittings. Steam engines and turbines. Internal-combustion engines and turbines. Hydraulic turbines. Hoisting and conveying. Automobiles. Railway engineering. Marine engineering. Aeronautics. Building construction. Heating, ventilation, and air conditioning. Illumination. Machine-shop practice. Industrial management and cost accounting. Statistical quality control. Pumps, compressors, and fans. Electrical engineering. Electron tubes and radio. Measuring instruments. Automatic control. Surveying. Mechanical refrigeration. Index.

Note. (1527) One of the outstanding engineering handbooks published in the United States of America. More than 60 specialists in the various branches of mechanical engineering have written or revised the signed sections and subsections. Generally speaking, each section includes theory and factual information presented in easy form and also reference data presented in tables. In this edition the general scope and arrangement are the same as in the preceding edition, but the format has been improved by the use of larger type and pages. The inclusion of new or expanded material on such topics as aerodynamics, aircraft jet propulsion, solar heating, heat pumps, dust explosions, elastomers, silicones, and atomic power accounts for approximately 400 additional pages.

OBERG, ERIK, AND F. D. JONES

Machinery's handbook for machine shop and drafting room. A reference book on machine design and shop practice for the mechanical engineer, draftsman, toolmaker and machinist. Fourteenth edition. New York, The Industrial Press, 1951. 1911 p. illus. 18 cm. $8.00 1980

Note: (1702) The scope and arrangement of this useful compilation of reference information and data relating to machine design and machine shop practice have been altered little since the first edition in 1914. However, with each succeeding edition the material has been revised, expanded, corrected and brought up to date to meet the current needs of machinists and designers of machinery and tools. The present edition was first published in 1948 and then reprinted in 1949, 1950 and 1951. It carries the same pagination as the thirteenth edition.

PLANT ENGINEERING HANDBOOK. Prepared by a staff of specialists. William Staniar, editor-in-chief. New York, McGraw-Hill Book Company, Inc., 1950. 2007 p. illus. 24 cm. (McGraw-Hill industrial organization and management series. L. C. Morrow, consulting editor) $15.00 1981

Contents (abridged): Basic industrial costs and cost reduction. Management engineering. Foundations and reinforced concrete. Materials of construction. Industrial water purification and treatment. Power plants. Refrigeration. Industrial instrumentation and control. Industrial piping. Welding. Industrial-plant power distribution and lighting. Mechanical power transmission. Antifriction bearings. Electrical speed control. Hydraulic power systems. Lubrication. Mechanical packings. Materials handling. Industrial process air conditioning. Crushing and grinding. Drying. Trade waste disposal. Hygienics in the industries. Graphical mathematics. Vibration control and noise silencing. Industrial containers and packaging equipment. Plastics. Patents and copyrights. Index.

Note: A one-volume encyclopedia for plant engineers and others who are responsible for the organization, construction, operation or maintenance of factories and other industrial establishments. Most of the chapters are devoted to engineering and mechanical phases of the large field. However, costs, work simplification, administration of job evaluation plans, etc., are given some space. The treatment of each subject is compact, but in general there is enough information under each heading to orient the plant engineer and to provide him with the basic facts about the subject under discussion. Literature references are appended for those who wish to read further. The sections and sub-sections of the book are signed, and the authors, recognized authorities, are affiliated with universities or industrial organizations.

UNITED STATES. UNIFORM PLUMBING CODE COMMITTEE

Uniform plumbing code. Report of the Uniform Plumbing Code Committee. Issued jointly by United States Department of Commerce, Office of Domestic Commerce, Construction Division, and House and Home Finance Agency, Office of the Administrator, Division of Standardized Building Codes and Materials. Washington, D. C., Government Printing Office, 1949. 83 p. illus. 23 cm. (United States. Department of Commerce. Domestic commerce series no. 13) o.p. 1982

Contents: Definitions. General regulations. Materials, weight, and quality. Joints and connections. Traps, cleanouts, interceptors, and backwater valves. Plumbing fixtures. Indirect waste piping and special wastes. Water supply and distribution. Drainage system. Vents and venting. Storm drains. Inspection, tests, and maintenance. Appendices: Individual water supply. Individual sewage-disposal system. Air gaps, backflow preventers, and drinking fountain standards. Sizing the water supply system. Administration.

Note: The Uniform Plumbing Code Committee is composed of representatives of the Housing and Home Finance Agency, the United States Department of Commerce, the National Association of Master Plumbers, the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, the United States Public Health Service, and the National Bureau of Standards. The code presents recommended practices for plumbing in residential, commercial, industrial, institutional, and other types of installations. It is based both on practical experience and on research performed at the National Bureau of Standards under the sponsorship of the Housing and Home Finance Agency. Also considered and used by the Committee were tests made at other laboratories, the findings of other research groups, and correspondence

from interested persons. The chief purpose of the code is to serve as a technical guide for public health officials and others responsible for the preparation or revision of local plumbing codes.

MECHANISM AND MACHINE DESIGN

BUCKINGHAM, EARLE

Analytical mechanics of gears. New York McGraw Hill Book Company Inc., 1949 546 p. illus. 23 cm. $10.00. 1983

Contents: Conjugate action on spur gears. Conjugate action on internal gears. Trochoids, tooth fillets, and undercut. The involute curve and its properties. Involutometry of spur gears. Involutometry of internal gears. Conjugate action on helical gears. Involutometry of helical gears. Involutometry of spiral gears. Helicoid sections. Contact on worm-gear drives. Design of worm-gear drives. Hourglass-worm drives. Conjugate tooth action on bevel gears. The octoid form on bevel gears. Spiral bevel gears. Skew bevel or hypoid gears. Gear teeth in action. Efficiencies of gears. Analysis of dynamic loads on spur-gear teeth. Dynamic loads on gear teeth. Beam strength of gear teeth. Surface-endurance limits of materials. Limiting loads for wear on gears. Index.

Note: An important contribution to the literature of gears. The author is widely known for his books on gear design. However, this one deals not with practical design but with the basis of design. In it are presented chiefly mathematical analyses of the actions of gears of the main types which are mentioned in the chapter titles. Related topics such as the ways in which gears wear and the function of lubricants under various conditions also are discussed. The book is based largely on the author's own work and there are no literature citations.

HORTON HOLBROOK LYNEDON editor

Ingenious mechanisms for designers and inventors. Volume III. New York Industrial Press, 1951 536 p. illus. 24 cm. $6 00. 1984

Contents: Cam applications and special cam designs. Intermittent motions from gears and cams. Intermittent motions from ratchet and Geneva mechanisms. Overload, tripping, and stop mechanisms. Locking, clamping, and locating devices. Reversing mechanisms of special design. Reciprocating motions derived from cams, gears, and levers. Crank actuated reciprocating mechanisms. Variable stroke reciprocating mechanisms. Mechanisms which provide oscillating motion. Mechanisms providing combined rotary and linear motions. Speed changing mechanisms. Speed regulating mechanisms. Feed regulating, shifting, and stopping mechanisms. Automatic work feeding and transfer mechanisms. Feeding and ejecting mechanisms for power presses. Hoppers and hopper selector mechanisms for automatic machines. Miscellaneous mechanisms. Index.

Note: (1544) The first two volumes of this series were edited by Franklin D. Jones, and they have been invaluable to machine designers and inventors. The present volume contains only mechanisms that did not appear in the first two volumes; otherwise its organization and scope are identical. The mechanisms are not only described but their essential and unique elements are diagramed in line drawings. The material has been reprinted from *Machinery*.

HRONES, JOHN ANTHONY AND GEORGE L. NELSON

Analysis of the four-bar linkage its application to the synthesis of mechanisms. New York Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1951. 730 p. 44 cm. $15 00 1985

Note: The 730 large-scale charts comprising this volume show the trajectories of various points on the connecting rod of four-bar linkages as the driving crank of the linkage rotates through 360°. For each set of link ratios there are five charts from which the displacement and velocity of points on given linkage may be read directly. Introductory pages explain how the charts were compiled and the manner of their use. The book is of interest to mechanical engineers and machine designers.

JEFFERSON, THEODORE BREWSTER, AND WALTER J BROOKING

Introduction to mechanical design. New York The Ronald Press Company 1951 612 p. illus. 24 cm. $6.50 1986

Contents: Glossary. Abbreviations. Machine types and their functional design. Fundamental concepts and terminology. Engineering materials and their properties. Forming and fabrication in design. Bolted and riveted connections, screws. Welded fastenings and joints. The machine frame and its elements. Shafting, keys, and couplings. Bearings and lubrication. Friction gearing, brakes and clutches. Gears and flywheels. Belt, rope, and chain drives. Cams, linkages, and miscellaneous devices. Springs. Piping and containers for machines. Styling, streamlining, and finishing of machines. Standard machine elements and standardizing agencies. Appendix. Index.

Note: An outstanding textbook in which the authors have made special effort to present the subject so that the reader will get clear picture of actual problems and operations in the professional designing of machines. The book won the first award in the Machine Design Division of the Competitive Program for Modernized Textbooks on Design sponsored by the James F. Lincoln Arc Welding Foundation. Recently developed machine elements such as ball-bearing sleeve bearings are covered, as well as the expected order elements. The book is exceptionally well illustrated and there are approximately 100 tables of engineering data.

LIPSON CHARLES, AND OTHERS

Stress and strength of manufactured parts, by Charles Lipson, G. C. Noll, and L. S Clock. New York McGraw Hill Book Company Inc. 1950 259 p. illus. 23 cm. $6 00 1987

Contents: Part I, General principles General approach to structural problem. Consideration of stress. Consideration of strength. Balance between stress and strength. Part II, Charts: Geometric stress concentration factors. Fatigue stress concentration factors for annealed steels. Fatigue stress concentration factors for quenched and drawn steels. Allowable stresses for infinite life. Allowable stresses for limited life. Appendix: Reference and supplementary data for charts. References. Author references.

Note: An unusual reference book of special interest to design engineers and metallurgists. General considerations are covered in the first part. The heart of the book is the second part. Here are given 175 charts on which are shown such information as effects of holes, grooves, keyways, etc., on the strength of parts subjected to bending, torsion, and tension. The charts are supplemented by notes and references to the papers on which they are based.

SAHAG LEON MARR

Kinematics of machines. Revised printing. New York The Ronald Press Company 1952 249 p. illus. 24 cm. $4.50. 1988

Contents. Fundamental conceptions. Motion in mechanisms. Instant centers. Linear and angular velocities. Accelerations in machines. Velocity and acceleration diagrams. Cams. Rolling friction surfaces. Gears. Gears on intersecting and nonintersecting shafts. Gear trains. Flexible links. Other useful mechanisms. General instructions for drawing room problems. References. Index.

Note: (1712*) A text designed for use in introductory but thorough courses offered to mechanical engineering students. The treatment takes into account the present-day demands upon the basic knowledge of machine designers due to the increasing use of complex and high-speed machinery. Problems in accelerations and velocities are solved graphically rather than by analytical methods. The major change in this "revised printing" is thorough rewriting of the chapter on accelerations. This chapter is now 12 pages longer. The additional pages have been inserted without alteration in the page numbers in the balance of the book.

SHAW MILTON C., AND E. FRED MACKS

Analysis and lubrication of bearings. New York McGraw-Hill Book Company Inc., 1949 618 p. illus. 24 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker consulting editor) $10.00 1989

Contents: Principal notation. Introduction. Bearing load analysis. Dimensional analysis. Aircraft-engine bearing loads. Hydrodynamic lubrication. Dynamically loaded bearings. Journal bearings. Hydrodynamic thrust bearings. High speed considerations. Rolling-contact bearings. Boundary considerations. Bearing evaluation. Appendix. Problems. References and selected bibliography. Index.

Note: A comprehensive technical treatise designed for use both by advanced students of engineering and practicing engineers. Instead of assuming [a] bearing rotating at constant speeds under ideal dynamic conditions, the authors hav[e] endeavored to present an analysis of bearing conditions as they actually exist in operating machinery. The analysis of bearing loads in reciprocating aircraft engines is especially detailed. Many subtopics, such as testing machines for bearing, and special kinds of lubricants, are discussed though not mentioned in the table of contents. The selected bibliography runs to nearly 400 entries and contains references to books, periodicals, and [a] few patents.

VALLANCE, ALEX., AND VENTON LEVY DOUGHTIE

Design of machine members. Third edition. New York McGraw Hill Book Company Inc., 1951 500 p. 24 cm. $6.00. 1990

Contents: Introduction. Engineering materials. Stresses in elementary machine members. Design stresses and factor of safety. Cylinders, pipes, and tubes. Metal fits and tolerances. Flat plates and cylinder heads. Riveted joints. Welded joints. Threaded fasteners and power screws. Keys, cotters, and knuckle joints. Shafts. Sliding bearings. Roller and ball bearings. Couplings and clutches. Brakes. Springs. Spur gears. Bevel and screw gears. Belts and belt conveyors. Rope drives. Hoisting and power chains. Miscellaneous machine members. Index.

Note: (3555) A standard engineering college textbook. The discussions of some topics are full enough to make it useful also to men out of college [w]ho are not professional machine designers but who must occasionally design [a] machine part. The present edition is 59 pages shorter than the preceding edition. This change has been accomplished chiefly by resetting the [t]ype so that the typical page contains more matter. New material has been added on such topics as stresses, riveted joints, threaded fasteners, and gears.

YORK, JOHN EDMUND

Methods of joining pipe standard and special joints for different classes of pipes and pipe materials including steel cast iron dur iron brass, copper lead, chemical tile, vitreous tile synthetic resin plastic, concrete glass, transite and wood. New York The Industrial Press 1949 236 p. illus. 22 cm. $3 00
1991

Contents: Screwed joints for ferrous and brass pipe. Flanged pipe joints. Welded and brazed pipe joints. Methods of joining cast iron pipe. Joints for thin wall tubes. Joints for plumbing and chemical-resistant pipe. Joints for vitreous tile and concrete pipe. Joints for transite pipe. Joints for wood pipe. Joints to permit movement. Index.

Note: Not all of the methods which have been devised for joining pipe are described in this book, but most of the practical ones are here. The larger part of the space is devoted to joints for metal pipes, but non-metallic piping systems, such as transite, wood, and glass, are adequately covered. Each type of joint is discussed as to design, construction, advantages and disadvantages. Numerous line drawings show details of joints. American Water Works Association, Society of Automotive Engineers, and American Petroleum Institute specifications are frequently cited.

CONTROLS AND SERVO-MECHANISMS

AHRENDT WILLIAM ROBERT AND JOHN F TAPLIN

Automatic feedback control. New York McGraw Hill Book Company Inc., 1951 412 p. illus. 24 cm. $7.50 1992

Contents: Introduction. Dynamical analysis of physical systems. The operational approach to feedback control. Frequency spectrum analysis. Feedback control loops. Multiple-loop feedback control systems. Design considerations. Nonlinearity and discontinuity in servomechanisms. Pneumatically operated controllers. Temperature regulation. Speed governing. Pressure, flow and liquid level. Glossary. Appendix. Index.

Note. A practical treatment on the engineering level. The theoretical fundamentals ar[e] outlined, and mathematical methods of analysis of controlling systems are presented. However, the mathematical aspects ar[e] not pursued to the advanced regions, characteristic of many books on the feedback principle. Much attention is paid to practical aspects that would be of concern to engineers designing controls and servomechanisms. Though intended mainly for engineering students, the book is potentially useful to graduate engineers and others in industry [who] find themselves in need of an inclusive introductory treatment.

CHESTNUT, HAROLD, AND ROBERT W MAYER

Servomechanisms and regulating system design. Volume 1. New York John Wiley & Sons, Inc. 1951 505 p. illus. 22 cm. $7.75.
1993

Content[s] The automatic control problem. Manipulation of complex [n]umbers. Solution of linear differential equations. Laplace transforms for the solution of linear differential equations. Steady-state operation with sinusoidal driving functions. Methods of determining system stability. Typical control elements and their transfer functions. Types of servomechanism and control systems. Complex plane representation of feedback control system performance. Design use of complex plane plot to improve system performance. Attenuation concepts for use in feedback control system design. Application of attenuation-phase diagrams to feedback control design problems. Multiple-loop and multiple-input feedback control systems. Comparison of steady state and transient performance of servomechanisms. Bibliography. Problems. Index.

Note This work is an introduction to the subject, but an introduction for trained engineers [w]ho will make practical use of the knowledge. The necessary mathematical background is covered in chapters 2 to 6. After these chapters, the authors discuss the analysis of servomechanisms by the complex plane method; then they show that some of the difficulties in using this method in the synthesis of feedback control systems are [a]voided by the attenuation frequency theorems of Bode. This approach to design is emphasized and examples of its application are given. The authors are associated with the General Electric Company and the book appears in the publisher' "General Electric series." The discussions are full enough and enough examples are included to make the book suitable for self instruction. The second volume, still to be published, will deal more particularly with design.

CHUTE GEORGE M

Electronic motor and welder controls. New York McGraw Hill Book Company, Inc., 1951 348 p. illus. 24 cm. $7 00. 1994

Contents (abridged) Part I, Resistance welding controls: Basic welding controls. G-E sequence weld timers. G-E high-speed sequence combinations. Synchronous timing. G-E synchronous combinations. Slope control, temper welding and forge timing. G-E seam-welding controls. Westinghouse synchronous combinations. Welding with limited power supply. Three-phase welding controls. Part II, Motor controls: Function controls. Photoelectric register controls. Motor-generator control of motor speed. The electronic amplidyne. The photoelectric tracer. Rubber calender control. Multicolor printing. Paper-machine control. Index.

Note: (3437 1847) A practical book suitable for shop electricians, plant engineers, and others whose work includes the selection, installation, or maintenance of electronic controls for resistance welders and motor-operated machines. The general principles of such controls are discussed briefly but most of the book is devoted to specific descriptions of the mechanisms, circuits, and operation of standard commercial controls. More recent types of controls and, generally speaking, more explicit descriptions of them are provided in this book than in the author's *Electronic control of resistance welding* (1943) and *Electronics in industry* (1946). Many readers will still need the earlier books for background information.

DIEBOLD JOHN

Automation The advent of the automatic factory New York D Van Nostrand Company Inc. 1952 181 p. 22 cm. $3.00. 1995

Contents. Note on the word automation. The problem of automation. Control and the computer. The redesign of product and process. Making machinery automatic. Automatic handling of information. What will automation mean to business? Some social and economic effects of automation. Index.

Note: A study of the possibilities, limitations, and social and economic consequences of the revolutionary new machines of the electronic age and what they will mean in terms of jobs, cost of goods and services, standards of living, and increased leisure time. The author considers the effects upon engineering, education, management, and labor of the new electronic machines, some of them already available and in operation in offices and factories.

DRAPER CHARLES STARK AND OTHERS

Instrument engineering. By Charles Stark Draper, Walter McKay and Sidney Lees Volume I Methods for describing the situations of instrument engineering. New York McGraw Hill Book Company Inc., 1952 269 p. illus. 29 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker consulting editor) $7.00 1996

Contents: The operating system. Diagrams for describing operating systems. Performance operators and performance functions for operating systems. Static and dynamic operating conditions—static sensitivity. Static performance. Dynamic performance. Derivation of performance equations. Dimensional analysis. Concepts and notation for the comparison of physical quantities. Concepts and notation for the description of generalized operating system performance. Applications of statistical methods to instrument engineering. Representation of physical situations by mathematical forms. Description of performance in terms of sinusoidal response characteristics. Bibliography. Index.

Note: The first volume published of a three-volume work which promises to be a substantial contribution to the literature on indicating, measuring, and control instruments. The treatment—in this first volume at least—is analytical and generalized. The work is addressed to graduate students and to engineers in industry who will be or are concerned with the design, installation, or use of instrument systems. It has been based on the activities and experience of the Aircraft Instrument Section and the Instrumentation Laboratory of the Aeronautical Engineering Department of Massachusetts Institute of Technology.

ECKMAN DONALD P

Industrial instrumentation. New York John Wiley & Sons, Inc. 1950 396 p. illus. 21 cm. $5.50 1997

Contents: Qualities of measurement. Expansion thermometers. Thermoelectric temperature measurement. Resistance thermometers. Radiation temperature measurement. Methods for composition analysis. Mechanical measurements. Measurement of pressure and vacuum. Measurement of head and level. Flow-metering. Process instrumentation. Appendix. Index.

Note: Although this book is essentially a text for upperclass engineering students, it can be used also by industrial and chemical engineers as an introductory guide to the principles and methods of measurement which are of use in the processing and manufacturing industries. Emphasis is placed on instruments used in measuring temperature, pressure, rate of flow and composition. Each class of instrument is preceded by a review of the physical principles involved; and the construction, operation, and applications of selected instruments are described. Schematic diagrams and review problems are included.

ERNST WALTER

Oil hydraulic power and its industrial applications. New York McGraw-Hill Book Company Inc. 1949 366 p illus. 24 cm. $8 00 1998

Contents: Fundamental units of measurement. Properties of hydraulic fluids. Hydrostatics. Hydrodynamics. Viscous flow. Viscous and turbulent flow. The generation of oil hydraulic power. The utilization of oil hydraulic power. The transmission of hydraulic power. The control of oil hydraulic power. The application of oil hydraulic power. Industrial applications of oil hydraulic power. Index.

Note: The utilization of confined oil to transmit power has application in a wide variety of mechanisms, from the simple hydraulic brake to highly complicated gun turret machinery. This book deals primarily with the industrial uses of this mode of power transmission and its applications in the design and construction of servomechanisms and heavy machine tools. In the early chapters the fundamentals of fluid mechanics are stated concisely; the remainder of the book is devoted to fairly detailed descriptions of methods and mechanisms.

MECHANICAL DRAWING

FARMER, J HAROLD, AND OTHERS

Illustrating for tomorrow's production by J Harold Farmer Abbott J Hoecker, and Francis F Vavrin. New York The Macmillan Company 1950 199 p illus. 24 cm. $5 75 1999

Contents (abridged) Part I, Preliminary to production illustration: The purpose of production illustration. Isometric and oblique drawing. Method for making true-scale perspective drawings. Mechanical method for exploding views. Freehand drawing based on the mechanical construction principle. Part II, Making production illustrations: The rough layout. Rendering. Mounting and presentation of drawings. Reproduction of illustrations. Part III, Aircraft illustrating. Part IV The production illustrator in advertising and industrial design. Bibliography

Note. A short but practical introduction to the technique of making perspective drawings of such things as machines and machine parts for use in manufacturing and also for reproduction in publications such as instruction manuals. Approximately half of the space is devoted to reproductions of illustrations, all of which either depict the making of production illustrations or show finished illustrations. The book is potentially useful to draftsmen and artists who wish to prepare for practical work in the field. The fourth part is only eleven pages long and hence is little more than an outline of the use of production illustrations in advertising and industrial design

GIESECKE FREDERICK ERNEST AND OTHERS

Technical drawing by Frederick E. Giesecke, Alva Mitchell and Henry Cecil Spencer Third edition New York The Macmillan Company 1949 851 p. illus. 24 cm. $7.50 2000

Contents: Introduction Instruments and materials. Instrumental drawing Geometry of technical drawing Lettering. Projections. Multiview projection. Sectional views. Auxiliary views. Revolutions. Axonometric projection. Oblique projection. Perspective. Technical sketching. Intersections and developments. Dimensioning. Fasteners. Shop processes. Working drawings. Gearing and cams. Pipe, fittings, and valves. Welding Shading. Patent drawing. Graphs. Architectural drawing Structural drawing Topographic drawing. Aeronautical drafting. Reproduction of drawings. Appendix Index.

Note. (1546) The clarity and thoroughness with which many aspects of technical drawing are presented in this volume make it of value both as a text in colleges and vocational schools, and as a basic reference book. The techniques of making technical drawings are explained in detail, but the emphasis is on fundamental principles. The many excellent drawings and illustrations constitute a large and important part of the text. This edition has been enlarged and revised. In particular, chapters dealing with such topics as dimensioning, axonometric projection, shop processes, and architectural drawing have been rewritten and expanded and a new chapter on aeronautical drafting has been added.

KATZ, HYMAN H.

Technical sketching and visualization for engineers. New York The Macmillan Company 1949 163 p. illus. 26 cm. $5 00 2001

Contents: Introduction Technical sketches. Straight lines. Curved lines. Proportion. Lettering—symbols—practice—problems. Orthographic sketching. Pictorial sketching. Shading Measurements from the model Non-graphical visualization Appendix. Index.

Note: A good exposition of the techniques of freehand pictorial sketching which are useful in visualizing mechanical ideas and designs. There is also some discussion of clay and cardboard models. Methods which can be followed to produce the fairly precise sketches which are most useful in the representation of machines and machine parts are emphasized. The book is intended for draftsmen and engineers already familiar with mechanical drawing.

LENT, DEANE

Machine drawing. New York Prentice-Hall, Inc. 1951 523 p illus. 24 cm. (Prentice-Hall engineering design series, John A Hrones, editor) $7 75 2002

Contents: Part I, The design phase: The design of machines. Part II, The detail phase Detail drawings. Shape description. Technical sketching. Auxiliary and partial views. Sectional views. Symbols and conventional representation. Size description—dimensioning. Manufacturing processes. Control of manufacturing accuracy. Techniques of precision drawing. Finished detail drawings. Part III, The assembly phase: Assembly drawings. Standard parts. Problems. Appendix. Index.

Note: A textbook organized so that it may be used in either vocational school or college courses offered to students who are preparing to become draftsmen or to work in machine design. Only those aspects of mechanical drawing which are useful in the drawing of machine parts are covered. The documents are clear and full enough so that in most parts they can be understood without the assistance of an instructor. The author is a member of the faculty of Massachusetts Institute of Technology

LUZADDER, WARREN JACOB

Technical drafting essentials for vocational and technical students. Architectural drafting section, by William S. Hornung. New York Prentice-Hall, Inc., 1950 326 p illus. 24 cm. $4.00 2003

Contents (abridged) Drawing instruments and equipment. Engineering geometry Technical lettering. Multiview drawing. Freehand drafting. Sectional views. Conventional practices and representations in orthographic drawing Auxiliary views. Revolution. Ink work and tracing Dimensioning. Screw threads, fasteners, and welding. Working drawings. Piping drawings. Gears and cams. Pictorial drawing. Sheet metal drafting. Map drafting Structural drafting. Architectural drafting. Appendix Index.

Note (1571) A revision of the author's well known *Fundamentals of engineering drawing* for use in courses in high schools and trade schools and for self-instruction. It contains considerably less material than the earlier book but is full enough to prepare students for practical work. There are 415 figures, many of which include reproductions of more than one drawing.

RULE, JOHN THOMAS AND EARLE F WATTS

Engineering graphics. New York McGraw Hill Book Company Inc., 1951 298 p. illus. 24 cm. $4.50 2004

Contents The straight line and circle The construction of the conic sections. Projective constructions. Roulettes, glissettes, and spirals. Vector geometry Graphical scales Empirical curves. Periodic curves. Graphical calculus. The geometry of projection drawing. Axonometry Conventions of practical drafting Appendices American drafting standards. Geometric proofs. Table of chords. Table of logarithms. Table of natural trigonometric functions. Table of exponentials. Values of e^x—hyperbolic logarithms. Index.

Note In this college textbook on engineering drawing the use of graphic methods in the analysis of engineering problems is given considerably more emphasis than are the techniques of making representational drawings Both aspects are well covered as to theory and to basic techniques, but there is comparatively little in the book on the drawing of machine parts, lettering, etc. On the other hand, such chapters as that on graphical calculus cover a phase of the subject that is omitted entirely from some of the older texts.

TURNER, WILLIAM WIRT AND OTHERS

Basic engineering drawing a text integrating engineering drawing descriptive geometry machine drawing. By William Wirt Turner Carson P Buck, and Hugh P Ackert. New York The Ronald Press Company 1950 669 p. illus. 23 cm. $5.50 2005

Contents Drafting equipment. The use and care of drafting instruments. Conventional lines and their application. Lettering. Orthographic projection Freehand sketching. Auxiliary views. True length. True size. Piercing points. Perpendicular relationships. Revolution. Intersections and developments. Pictorial drawing. Sections and conventions. Dimensioning. Fasteners, piping, and welding. Working drawings. Gears and cams. Graphs. Drafting as it applies to various types of engineering. Appendix. Index.

Note: A textbook for use in full-length introductory courses in engineering colleges. As indicated in the subtitle, it includes certain allied subjects, such as descriptive geometry which are often taught as separate courses. Also there is more emphasis on perspective and other types of pictorial drawings than is found in some of the long established texts. This aspect reflects the wide use of such drawings in American industry where they have been found easier for beginning machinists and other mechanics to follow than conventional plane drawings. The appendix includes a useful glossary. The authors are members of the faculty of the Department of Engineering Drawing of the University of Notre Dame.

LUBRICANTS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on functional tests for ball bearing greases. Presented at the fifty-first annual meeting American Society for Testing Materials, Detroit, Michigan June 23 1948. Philadelphia American Society for Testing Materials 1949 103 p illus. 23 cm. (Special technical publication no 84) Paper $1.00. 2006

Contents. Introduction, by R. C. Adams. Development of functional grease test methods for the aircraft industry by D. H. Moreton. Grease—an oil storehouse for bearings, by D. F. Wilcock and M. Anderson. Laboratory performance tests for antifriction bearing greases, by M. Herbst and others. Service experience with greases, by W T Everitt and C. L. Pope. Factors affecting simulated service tests of greases, by S. M. Collegeman and J. R. Belt. General discussion.

Note The papers in this symposium are written for manufacturers and users of antifriction bearing greases. Prepared by authors who represent both points of view they describe the methods and apparatus used for evaluating and selecting lubricating greases. Discussions of the results and conclusions derived from each type of test are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on methods of measuring viscosity at high rates of shear Presented to the API Committee on Petroleum Products, Chicago Ill., November 7 1949 and to Research Division VII on Flow Properties ASTM Committee D 2 on Petroleum Products and Lubricants Washington D C., February 24 1950. Philadelphia Pa. American Society for Testing Materials 1951 47 p. illus. 22 cm. (Special technical publication no. 111) Paper $1.35 2007

Contents. Introduction, by J. C. Geniesse. Viscosity-shear behavior of two non-Newtonian polymer blended oils, by M. R. Fenske and others. The Kingsbury tapered plug viscometer for determining viscosity variations with temperature and rate of shear, by S. J. Needs. The comparison of viscosity-shear data obtained with the Kingsbury tapered plug viscometer and the PRL high shear capillary viscometer.

Note These papers report on a series of studies which were made to determine the viscosity of special oils and lubricants under various rates of shear. Resulting data are tabulated, and the techniques and equipment employed in the tests are described in detail. Of particular interest to lubrication experts and mechanical engineers.

THOMSEN THOMAS CHRISTIAN

The practice of lubrication an engineering treatise on the origin, nature and testing of lubricants, their selection application and

use. Fourth edition. New York McGraw Hill Book Company Inc., 1951 617 p. illus. 24 cm. $8.50 2008

Contents (abridged) Mineral lubricating oils. Fixed oils and fats. Engine-oil additives. Solid lubricants. Testing lubricants. The laws of friction. Lubricating appliances. Bearings. Ring-oiling bearings. Electric generators and motors. Flat thrust bearings. Ball and roller bearings. Michell and Kingsbury journal bearings. Steam turbines. Bearing lubrication of high-speed enclosed-type steam engines. Crankchamber explosions. Bearing lubrication of marine steam engines. Railway rolling stock. Transmission shafting. Machine tools. Textile machinery Mine-car lubrication. Blowing engines and air compressors. Refrigerating machines. Gas engines. Gasoline engines. Diesel engines, land and marine. Oil recovery and purification. Oil storage and distribution. Cutting lubricants and coolants. Index.

Note: A practical review of lubrication from the engineering viewpoint rather than that of the petroleum industry The general chapters on lubricants at the front of the book give background information to the engineer, but they are somewhat less valuable than the compact discussions of lubrication of specific types of bearings and machines that constitute the bulk of the book. New material in this edition includes the chapter on additives, short discussion of the lubrication of aircraft engines, and discussions of newly developed types of bearings, such as fabric bearings for the roll necks of rolling mills, rubber and fiber bearings. There is no bibliography and the index fails to do justice to the contents of the book.

TOOLS

AMERICAN SOCIETY OF TOOL ENGINEERS

Tool engineers handbook a reference book on all phases of planning, control, design tooling, and operations in the mechanical manufacturing industries. Frank W Wilson editor in-chief New York McGraw Hill Book Company Inc., 1949 2070 p illus. 23 cm. $15.00 2009

Contents (abridged) Tool engineering economics. Production analysis and cost estimating. Job planning and control. Quality planning and control. Time study and rate setting. Plant layout. Identifying codes and numbering systems Drafting room standards and practices. General structure and properties of metals. Heat-treating and hardening. Principles of metal cutting and machinability. Properties and workability of woods. Properties and workability of plastics. Sand casting. Metal mold casting. Plaster casting. Investment casting. Powder metallurgy Extrusion of metals. Single-spindle automatic lathes. Single-spindle automatic screw machines. Multiple-spindle automatic bar and chucking machines. Vertical boring mills and turret lathes. Planing Shaping and slotting. Gear milling and hobbing. Thread grinding. Nibbling. Power hacksawing. Circular-saw friction cutting. Grinding. Superfinishing. Press-brake bending. Metal spinning. Rotary swaging. Drop, machine, and press forging. Pressworking of metals. Oxygen (flame) cutting. Resistance welding. Assembly methods for bolts, screws, and rivets. Wire stapling and stitching. Gluing. High-frequency dielectric heating. Plastic joining of materials. Shot peening Static and dynamic balancing Allowances and tolerances for cylindrical fits. Inspection equipment and methods. Non-destructive testing and inspection. Master tooling Limited production tooling. Hydraulic equipment. Pneumatic equipment. Electronic drives and controls. Ball and roller bearings. Springs. Mathematics. Reference tables. Index.

Note: An encyclopedic compendium of information useful in tool engineering. Because tool engineering touches upon most of the processes employed in the forming of metals and other materials, the book is also virtually an encyclopedia of machine shop techniques. There are 115 sections, each one the work of an outstanding authority The sections are signed and, furthermore, the name of the specialist who reviewed each section is given. The book is generously illustrated. There is an exceptionally detailed index. Various parts of the book have been issued separately by the same publisher.

BAKER, WARREN AND JOSEPH S KOZACKA

Carbide cutting tools how to make and use them. Chicago American Technical Society 1949 416 p. illus. 22 cm. $5.50. 2010

Contents: Machine tools and the carbides. Converting to carbides. Tool angles, machinability Tipping carbide tool. Grinding single-point tools. Cutting power, speeds, feeds. Carbide tool design. Coolants and carbide tools. Carbide forming tools. Carbide milling cutters. Sharpening milling cutters. Multiple-edge carbide tools. Cutting speeds, feeds, forces. Multiple-edge tool design. Selection of carbide. Tool materials, assembly Grinding and use of tools. Index.

Note: An impressive compendium of information on carbide cutting tools. It was written for use as text in vocational schools, and as self-instruction book by practicing machinists and tool designers. It provides an inclusive treatment of the subject from the practical viewpoint. The educational value of the text is increased by very liberal number of illustrations, which show tools and machining operations, and by numerous tables of reference data. Review questions and helpful lists of references are appended to the chapters.

DOYLE, LAWRENCE EDWARD

Tool engineering analysis and procedure. New York Prentice-Hall, Inc. 1950 499 p illus. 22 cm. $6 65 2011

Contents: The nature and scope of tool engineering. Principles of economics. Problems of economy Planning and tooling for economy Principles of estimating. Short cuts and variations in estimating. Manufacturing principles applicable to process and tool planning. Planning practices. Principles of dimensioning. Determination of the requirements and conditions of process. Determining the operations of process. Determining the sequence of operations of process. Principles of locating. Tool design. Clamping principles. Dimensional analysis. Index.

Note: One of the essential preliminary steps in the manufacture of new metal product is "tooling up." If the article is to be manufactured economically in commercial quantities, not only must it be so designed that it can be produced without waste of material or labor but special tools—such things as fixtures, jigs and dies—must be designed and made so as to render rapid and accurate manufacturing possible. This book provides an overall introductory view of the problems and methods of these operations. There is no attempt to show how the special tools are made by the tool maker The book will be useful to students preparing for tool engineering, production and tool engineers, and machinists who wish to gain promotion into tool engineering. It is suitable either for classroom use or home study

GWIAZDOWSKI ALEXANDER PETER

Tool engineering. Appleton, Wisconsin C. C. Nelson Publishing Company 1951 306 p. illus. 24 cm. $6 00. 2012

Contents: The engineer—creator of abundance. Industrial organization. Limits, tolerances, and allowances. Measuring and gaging. Procedure used in tool design. Grinding and honing process. Milling process and fixtures. Work-holding fixtures. General rules for the design of jigs and fixtures. The broaching process. The drilling process. The reaming and tapping processes. The extrusion of metals. The stamping process. Gear calculations and shop drawings of gears. Cutting fluids. High-speed and commercial tool steels. Heat treatment of ferrous alloys Jigs and fixtures made by welding process. Jig boring and jig-boring methods. Review questions and assignments References for further reading. Names and addresses of manufacturers who supplied illustrations. Index.

Note: An introductory textbook for engineering students, especially students who are preparing for careers in the manufacturing of interchangeable parts. The design of tools for the manufacture of particular part—a connecting rod cap for an internal combustion engine—is used as thread on which to string the exposition. However, the student is introduced to wide range of topics which are of concern to the tool engineer Many illustrations of modern machine tools are included. The author is Professor of Industrial Engineering in Tri-State College.

HINE, CHARLES R.

Machine tools for engineers. New York McGraw Hill Book Company Inc., 1950 355 p. illus. 23 cm. $4 00 2013

Contents: The engineer and the machine tool. Cutting tools. Measurement. The lathe. Threads and threading. Hole making and the drill press. The shaper. The planer The milling machine. Broaching. Abrasives and grinding. Microfinishing. Boring machines. Gear making. Jig boring. Sawing. Turret lathes. Appendix. Index.

Note: An introductory work designed primarily for students of engineering. It describes the major machine tools, their principles of operation, uses, and limitations. Certain operations and processes such as measuring and superfinishing are described in conjunction with the description of the instruments or the machines used

in the operations. Numerous reproductions of photographs of present-day machine tools are included. The material is presented from the engineer's rather than the machine tool operator viewpoint. The author is member of the faculty of Rensselaer Polytechnic Institute.

ST CLAIR, LEO J

Design and use of cutting tools. New York McGraw Hill Book Company Inc., 1952 437 p. illus. 24 cm. $8.00 2014

Contents. The single-point cutting tool. The side relief angle. How to measure angles. The end relief angle. The nose radius and point angle relief. The angle of clearance. Peripheral grinding. The side rake angle. The back rake angle. The side cutting edge (SCE) angle. The end cutting edge angle. The nose radius and the point angle. The cutting rake angle. The proper choice of cutting tools. The cutting edge and chip formation. Chip breakers. Speeds and feeds. Grinding cutting tools. Appendix. Index.

Note: An exceptionally detailed treatment of cutting tools used in the machining of metals. As the chapter titles indicate, much attention is given to such points as relief, clearance, rake and cutting-edge angles. These matters and other pertinent ones are discussed in detail and are shown in numerous illustrations. Full consideration is given to differences in tools made of the various cutting materials such as the tool steel, stellite and cemented tungsten carbide. The book will be valuable both to practical machinists and to mechanical engineers in charge of machine shop operations.

STANLEY, FRANK ARTHUR

Punches and dies layout construction and use. Fourth edition New York McGraw Hill Book Company Inc. 1950 583 p illus. 24 cm. $6 75 2015

Contents (abridged) Section I, Blanking and piercing dies and other tools: Types and applications of press tools. Dies for piercing and blanking. Carbide dies and their uses. Section II, Compound dies and other cutting dies. Principles of compound dies. The sub press and its dies. Section III, Dies for shaving and trimming. Section IV Drawing processes and tools: Drawing dies and drawing methods. Combination dies and compound dies. Section Bending and forming tools and operations: Methods of bending and forming. Side-operating tools. Section VI, Horn dies, embossing and indexing dies, and mechanisms. Section VII, Presses and dies for large parts. Section VIII, Tool standards, layout and construction methods: Punch and die standards. Laying out and making templets and dies. Locating holes accurately in die work. Contour machines on die work. List of references. Index.

Note (1399) A well known handbook written for the guidance of machinists and tool designers. It is competently written and fully illustrated. Technical developments which have occurred since 1943 have been incorporated into the text of this edition, and new chapters have been added on carbide dies, drawing dies, and contour machines. The chapter arrangement has been altered and the data previously found in "wartime supplement" is now included in the appropriate sections.

METALWORKING AND MACHINE SHOP PRACTICE

AMERICAN SOCIETY FOR METALS

Machining—theory and practice. A series of thirteen educational lectures presented to members of the A.S.M during the thirty first National Metal Congress and Exposition Cleveland. Cleveland American Society for Metals 1950 504 p illus. 23 cm. $6.50 2016

Contents Metal cutting art to science, by H. Ernst. Metal cutting research—theory and application, by M. E. Merchant. Cutting fluid theory, by M. C. Shaw. Materials and machinability by F W Boulger. Development of the microstructure of metals by machining, by L. M Clarebrough and G. J Ogilvie. Metallurgy and machinability of steels, by J D. Armour. Tool steels, by G. A. Roberts. Cemented carbide tool materials, by J. C. Redmond. Heat in metal cutting, by A O Schmidt. Evaluation of machinability of rolled steels, forgings and cast irons, by M. Field and N. Zlatin. Tool life testing, by O. W Boston. Some metallurgical aspects of grinding, by L. P Tarasov. Economics of machining, by W W Gilbert.

Note: The keynote of this volume is the application of the findings of research to practical metal-cutting techniques. The great advances which have been made in recent years in the understanding of what happens when metals are machined and what factors affect machinability are evaluated and interpreted for the benefit of engineers and metallurgists. The papers are addressed primarily to graduates already at work in metal working industries. They are supplemented by illustrations and references to related literature.

AXELROD AARON

Machine shop mathematics. Second edition. New York McGraw Hill Book Company Inc. 1951 359 p. illus. 24 cm. $3.60. 2017

Contents Shop arithmetic. Measuring tools of the machine shop. Weights and measures. Practical measurements. Percentage and its applications. Ratio and proportion. Geometric constructions. Shop trigonometry. Speeds of pulleys and gears. Speeds and feeds. Lathe work. Gears. Milling machine work. Appendix. Index.

Note (1604) A standard elementary text for use in vocational school courses and for home study purposes. Emphasis is placed on the practical applications of mathematical procedures at the high-school level. Numerous illustrative exercises and review problems constitute an important feature of the exposition. In this edition new chapters have been added on basic arithmetic operations, ratio and proportion, and percentage.

BASTIAN EARL L. H

Metalworking lubricants their selection, application and maintenance. New York Mc Graw Hill Book Company Inc., 1951 357 p. illus. 24 cm. $6 00. 2018

Contents An introduction to metalworking lubricants. Types of metalworking lubricants. Cutting fluids. Drawing fluids and compounds. Extrusion and extrusion lubricants. Mold coatings. Forging and forging lubricants. Rolling oils. Metal-casting processes. Heat treating—quenching and tempering mediums. Machine-tool lubrication. Lubrication of presses, drawbench, and large equipment. Application of lubricants. Lubricant quality control. Lubricant test methods and specifications. Appendixes. Index.

Note This book covers not only cutting oils but all varieties of lubricants used in metal working, as well as some material on the lubricants in the working of such non metallic materials as plastics. The treatment is practical, and the book is suitable for such men as engineers in charge of metalworking processes. Compact discussions of the processes are included, along with discussions of appropriate lubricants. The text is generously illustrated, selected references are appended to the chapters, and there are numerous tables of engineering data.

BEGEMAN MYRON LOUIS

Manufacturing processes. Third edition. New York John Wiley & Sons, Inc., 1952. 608 p. illus. 24 cm. $6.00 2019

Contents (abridged) Foundry practice. Pattern work. Metal casting. Special casting methods. Heat treatment of steel. Welding and allied processes. Hot forming of metals. Cold forming of metals. Powder metallurgy. Plastic molding. Inspection. Lathes and lathe tools. Turret and automatic lathes. Threads and thread cutting. Shapers and planers. Drilling and boring machines. Milling machines and cutters. Gears and gear-cutting machines. Metal sawing. Broaching machines and tools. Abrasives, grinding wheels, and grinding machines. List of tables. Index.

Note: (1749*) A comprehensive, descriptive survey of present-day manufacturing methods and machines. Its purpose is to inform upper-class engineering students and also engineers and management personnel in industry about the available processes and their application. Most of the book is devoted to manufacturing with metals, but the author has included one chapter on plastics. The previous edition appeared in 1947. Although a good deal of matter has been carried over to this edition, the amount of revision appears to be adequate. The type has been reset and the book given a more attractive format.

BLUM WILLIAM, AND GEORGE B HOGABOOM

Principles of electroplating and electroforming (electrotyping) Third edition. New

York McGraw Hill Book Company Inc., 1949 455 p. illus. 24 cm. $7.00 2020

Contents (abridged) Principles of chemistry Principles of electricity and electrochemistry Factors that govern the character and distribution of electrodeposits. Analysis of solutions. Preparation for electroplating. Electrical equipment. Tanks and their equipment. Types of metals and solutions. Alloy deposition. Appendix. Author index. Subject index.

Note: (3404c) In the twenty years that passed between the second and third editions of this well known book the basic knowledge of electroplating was greatly extended and the techniques of plating considerably modified. These developments are adequately reflected in this edition. The book is designed for practical workers in the industry and for chemists and engineers who are not specialists in plating but who need, on occasion, a concise and reliable description of plating principles and techniques. Chapters 12 to 21 the titles of which are not listed above, discuss specific metals. Numerous formulas are incorporated in the text, and a selection of pertinent literature is cited in footnotes.

BOSTON ORLAN WILLIAM

Metal processing. Second edition. New York John Wiley & Sons, Inc., 1951. 763 p. illus. 24 cm. $7.50 2021

Contents (abridged) An introduction to the study of machines, tools, and processes. Lathes. Shapers. Planers. Nomenclature and materials for single-point tools. Cutting fluids. Machinability Milling. Sawing. Drilling, boring, reaming, and threading. Turret lathes, screw machines, and hand-controlled production turning machines. Automatic turning machines. Broaching. Gears and their manufacture. Grinding, polishing, buffing, honing, and lapping. Presses, punches and dies, and formed parts. The quality of surface finish. Drives for machine tools. Accounting and costs. Index.

Note: (3607) A treatise on machine tools, machinability and metal cutting written for college students of engineering. For the noncollege reader the book's special virtue is that it gives a more comprehensive view of the subject from the engineer's viewpoint than is provided in books written for men who operate the machine tools. In this edition there is a fair amount of new material including the chapter on surface quality

BRUCE LEROY FOWLER

Sheet metal shop practice. Chicago American Technical Society 1951 251 p illus. 22 cm. $4 00. 2022

Contents: Sheet metal working tools and machinery Sheet metal materials and supplies. Using patterns and cutting metal. Punching, drilling, and riveting. Folding edges. Forming, crimping, beading, and grooving. Notching, clipping, and wiring Soldering. Tinning, burring, and raising. Basic principles of pattern development. Parallel line development. Radial line development. Triangulation. Welding. Index.

Note: A simply-written, well-illustrated book which is suitable for use as a text in vocational courses and as a manual for mechanics in need of specific information on how to do a particular metal-working operation. Each chapter is complete in itself (or nearly so) and therefore can usually be used without reading the others. All of the basic sheetmetal-working tools and operations performed in small shops are described in the text and shown in the illustrations.

CHASE, HERBERT

Handbook on designing for quantity production. Second edition. New York McGraw Hill Book Company Inc., 1950 564 p. illus. 23 cm. $7.50 2023

Contents (abridged) Part I: Design of die castings. Design of sand castings Design of permanent mold castings. Design of screw-machine products. Design of stampings. Design of impact extrusions. Design of die-forged parts. Notes on and accomplishments in hot heading. Notes on the design of cold-headed parts. Design of wire forms. Design of sintered metallic powder compacts. Design of plastic moldings. Part II: Die-cast or sand-cast? Permanent mold and die castings compared. Which type of nonferrous casting? Die-cast or stamped? Die-cast or screw-machine product? Cold-headed or screw machine products? Die castings and plastic moldings compared. Malleable-iron castings vs wrought parts. Index.

Note: (3521) A manual of useful information for engineers who design machine parts and other metal and plastic products. The advantages, disadvantages, and limitations of the various processes mentioned in the chapter titles are all discussed, and the designer is told how to design parts so as to take the fullest advantage of each process. There are six new chapters in this edition, and chapters carried over from the older edition have also been revised where revision was needed. Numerous additions have been made to the bibliographies. Certain of the chapters have been authored or co-authored by specialists other than Mr. Chase.

CLAPP, WILLIAM HOWARD AND DONALD SHERMAN CLARK

Engineering materials and processes metals and plastics. Second edition. Scranton Pa. International Textbook Company 1949 526 p illus 24 cm. (International textbooks in mechanical engineering, Charles Fayette Taylor consulting editor) $7 00 2024

Contents. Part I, Materials: Properties of engineering materials. The structure of metals and alloys. Cooling curves and equilibrium diagrams. Metallurgy properties, and uses of ferrous metals and alloys—the manufacture of iron and steel—control of properties—the alloy steels and cast iron. Metallurgy, properties, and uses of non-ferrous metals and alloys. Plastics, rubber, and synthetic elastomers. Part II, Processes: The production of castings. Hot-working of metals. Cold-forming of metals. Joining of metals. Machine shop production methods. Lathes, boring mills and screw machines. Milling and drilling operations Shapers, slotters, planers, broaching machines, and saws. Gears, gear cutting and gear-cutting processes. Abrading, grinding, and finishing processes. Index.

Note. (3411) A standard engineering college textbook. Its compact but clear descriptions of standard materials, machine tools, and manufacturing methods give it some value as a reference book. The changes made in preparing the second edition were not major but they include descriptions of a fair number of new processes and a completely rewritten chapter on plastics and synthetic rubber. The authors are members of the faculty of the California Institute of Technology

COLVIN FRED HERBERT, AND FRANK A. STANLEY

Gear cutting practice methods of producing gears for commercial use. Third edition. New York McGraw Hill Book Company Inc., 1950 532 p. illus. 23 cm. $6 75 2025

Contents (abridged) Introduction to gear cutting. Cutting spur gears with circular cutters. Shaping external and internal gears. Cutting small pinions. Types of bevel gears. Helical gears, and hobs and cutters. Worms and worm gearing. Involute and straight-sided splines. Finishing gear teeth and burrs. Heat treatment of gears. Gear-inspection methods and equipment. Index.

Note (3518) A well known book for practical mechanics. It is planned for beginners in gear cutting, but the discussions of practice are carried far enough to make the book of interest to many men with substantial experience in the field All of the standard practices are covered and, in addition, there are good descriptions of the principal gear-cutting machines In this edition the length of the book has been increased very substantially New machinery is described and there are additional data on many topics such as carbide-tipped hobs, hobbing speeds, new methods of cutting and finishing gears, and new standards.

COLVIN, FRED HERBERT, AND FRANK A. STANLEY

Grinding practice typical machines and methods used in a wide variety of work. Third edition. New York McGraw Hill Book Company Inc. 1950 419 p. illus. 24 cm. $5.00. 2026

Contents: The grinding machine in industry Typical grinding machines Automatic and semiautomatic equipment. Cylindrical grinding in general External and internal grinding. The centerless grinder. Centerless-grinding operations Size control in precision grinding Examples of precision grinding. Surface grinders and their work. The magnetic chuck. Grinding crankshafts and other motor work Grinding heavy rolls. Cutter and tool grinding methods Types and uses of grinding wheels. Mounting and dressing wheels. Lapping and honing machines. Polishing and buffing. Index.

Note. (3617) This standard text for vocational school courses provides a general view of the machines and methods used in modern grinding practice. The more widely used machines are described and illustrated, and typical grinding operations are discussed in detail. Data regarding operating speeds, sizes, and types of wheels are tabulated throughout the book. The general scope and purpose of this edition remain the same as in the previous edition, but the chapters have been rearranged and the Wartime supplement of the 1943 edition has been incorporated into the body of the text. Revisions and additions account for 70 additional pages.

FELKER, CHARLES AURAND

Machine-shop technology Milwaukee Bruce Publishing Company 1952 491 p. illus. 23 cm. $4.80 2027

Contents Hand tool operations. Power saw The drill press. Center drilling and straight turning on the lathe. *Facing* and other lathe operations. Turning and boring tapers. Cutting screw threads. The shaper The planer The milling machine. Milling machine indexing. *Helical milling. Gears and gear cutting. Grinding machines. Metals* used in the machine shop. Appendix. Index.

Note. An introductory text for use in practical courses in vocational schools, general high schools, industrial training programs, etc. Except for the first chapter it is devoted to machine tools and basic operations on them. A considerable number of the 339 illustrations are photographs; the others are reproductions of line drawings. Both are well reproduced. The author is Head of the Department of Vocational Education in the University of Toledo.

HINMAN CHAUNCEY WEED

Pressworking of metals a reference book illustrating and describing the uses of metal working presses and many types of press tool designs. Second edition New York McGraw Hill Book Company Inc. 1950 551 p. illus. 24 cm. $9.00. 2028

Contents Standard types of power presses. Pressworking commonly used materials. Press accessories and feeding equipment. Designing chutes, magazines, and hoppers. Automatic stops and die accessories. Blanking and cutting dies. Two-step or tandem dies. Progressive dies. Blank and scrap strip developments. Perforating and piercing. Shaving, burnishing, and trimming Sectional dies and inserts. Bending, forming, and embossing Dies for assembling work parts. Swaging, coining, and cold sizing. Dies for drawing and redrawing. Unusual dies and novel operations. Formulas and reference tables. Index.

Note (3591) A clearly written and practical guide to the art of pressworking ferrous and nonferrous metals. The workability of various materials and the selections of machines are discussed, but the book deals mainly with the design, construction, use, and operation of presses and dies. This edition has been largely rewritten and includes information regarding press tools, accessories, and new operating practices which have been developed since 1941 Progressive dies and machines are described in more detail, and a chapter on perforating and piercing has been added. Again, numerous photographs and diagrams of equipment are included.

JONES FRANKLIN DAY

Die design and diemaking practice. Third edition New York Industrial Press [1951] 1014 p. illus. 24 cm. $7 00 2029

Contents (abridged) Dies for cutting blanks from flat stock. Laying out blanking dies and general diemaking practice Materials used in diemaking. Punch and die details. Sectional punch and die construction. Piercing and perforating dies. Sub-press or self guiding dies. Bending and forming dies. Classes of drawing dies and general designing information. Dies for drawing shallow cups or shells. Dies for drawing deep shells. Drawing dies for conical or tapering forms. Drawing dies for spherical and oval shapes. Drawing square and rectangular shapes. The use of rubber in conjunction with press tools. Dies for special operations. Heat-treatment of die steels. Designing dies for powdered metal parts. Index

Note (3604) A practical and fairly comprehensive manual for beginners in diemaking and also for those who have had some experience in the craft. The third edition has been printed from the same type (or plates) as the second edition Nevertheless, a considerable amount of new material has been added. Four new chapters, three at the end of the book and one at the end of the third chapter deal with diemaking materials, special pointers on the design of stampings, heat treatment of die steels, and dies for powdered metal work. In addition, there are several insertions of additional pages in other chapters.

LYTLE, CHARLES WALTER, AND ARTHUR F GOULD

Manufacturing equipment and processes. Third edition. Scranton International Text book Co., 1951 759 p. illus. 24 cm. $7.00. 2030

Contents (abridged): Equipment policy in manufacturing. Designs, models, patterns. Casting in sand and loam molds. *Permanent* molds, die casting, plastics, powder metallurgy Hot-working of metals. Cold working of metals. Soldering, brazing, plastic welding. Fusion welding of metals. Heat treating of metals. Turning. Boring. Drilling. Planing, shaping, slotting, keyseating. Broaching, sawing, filing. *Milling. Gear cutting and finishing. Screw-thread* cutting and finishing. Grinding of metals. Controlling quality Selection of equipment. Index.

Note: (3393) Readers and technical librarians know the earlier editions of this book under the title *Factory equipment*, by J. W Roe and C. W Lytle. The scope of the book has not been changed. It is still essentially a descriptive treatment of the processes and machines employed in the manufacture of metal articles, with the emphasis somewhat on the machine. Considerable attention is paid to modern machines developed for special jobs. A good part of the text of the present edition is new Though primarily a college textbook, the book is also useful to readers out of school who want a readable survey of present-day machine tools and processes or description of a particular type of tool.

MILNE, LORUS JOHNSON

Machine shop methods. New York Prentice-Hall Inc. 1950. 376 p. illus. 23 cm. $5 00 2031

Contents: Shop machinery Drawings and specifications. Handwork related to machining. The lathe. Turning work between centers. Work supported chiefly by the headstock. Outside machining. Inside machining. Threads and thread cutting. Drills and drilling. The drill press. The shaper. The miller. The grinder. Holding the workpiece: a summary Other shop machines. Useful tools and fixtures. Gears and gear cutting. Cutting speeds and feeds. Accuracy in machining. Assembling machined parts. Processing and finishing metal. Materials. Bibliography Appendix tables. Index.

Note. An introductory text suitable for use in trade-school classes and also as a self instruction book or elementary reference for home mechanics. All of the common machine tools and the chief operations performed on them are discussed. Numerous special techniques which are of particular interest to the basement machinist, such as the production of crackle finishes, the cutting of circular holes in sheet metal, and the cutting of glass, are discussed in addition to the expected material. A fair number of illustrations is included, and there is a bibliography of more advanced and specialized books for machinists.

RUSINOFF SAMUEL EUGENE

Forging and forming metals. Chicago American Technical Society 1952 279 p. illus. 22 cm. $3 95 2032

Contents: Introduction. Metal quality Hand forging. Power-hammer forging. Impact-die or drop forging. Typical examples of impact-die forging. Press forging. Machine or upset forging. Other forging methods. Cleaning and finishing forgings. Heat treatment of forgings. Inspection and testing of forgings. *Forging dies* and tools. Product design for forging. Safety in forging operations. Standard practices, tolerances, impression die forgings. Bibliography Glossary of forging terms. Appendix of useful tables. Index.

Note A comprehensive but simple treatment of all aspects of modern forging techniques that are of concern to the practical worker. It is suitable for use in trade school classes and it will also serve the needs of some machine designers and engineers who desire an informative and quickly read survey of current techniques. Metallurgical aspects such as would concern the metallurgical engineer only are of course not covered. There is a generous number of illustrations. The author is Associate Professor of Mechanical Engineering and Manufacturing Processes at the Illinois Institute of Technology.

RUBINOFF, SAMUEL EUGENE

Manufacturing processes Chicago American Technical Society, 1949 2 v illus. 22 cm. Vol. I $4.50 Vol. II, $5.00. 2033

Contents [Volume I, Materials.] The foundry and sand molding. Production of sand castings. Other casting processes. Hot forming of metals. Cold forming of metals. Welding, brazing, and soldering. Heat treatment of metals. Powder metallurgy. Plastics and plastic molding. Index. [Volume II, Production.] The machine shop and metal processing. Lathe operations and thread cutting. Lathes and screw machines. Milling machines. Drilling, boring, and reaming machines. Shapers, slotters, and planers. Metal-sawing and metal-filing machines. Broaching machines and broaching operations. Gears and gear manufacturing. Grinding and finishing machines. Inspection and quality control. Index.

Note: A practical survey of the major manufacturing techniques. The materials volume is concerned with the processes which generally precede fabricating techniques. The production volume describes the chief machine tools and the principal fabricating and finishing techniques. The work is liberally illustrated, and the chapters are supplemented by review questions and bibliographies. It is suitable for vocational school students and engineering college students who need an overall introduction to modern manufacturing.

SACHS, GEORGE

Principles and methods of sheet-metal fabricating. New York Reinhold Publishing Corporation 1951 526 p. illus. 24 cm. $11.00 2034

Contents (abridged) Part I, Sheet metal and sheet-metal parts Part design and metal properties. Formability tests. Sheet metals. General properties of sheet metals. Part II, Principles of forming various part types: Bending and straight flanging. Contour forming of sections. Forming of deep recessed parts. Forming of shallow recessed parts. Part III, Principles of deep drawing: Drawing of thin walled cylindrical cups. Redrawing of tubular parts (sinking). Drawing of thick walled cylindrical cups. Drawing of box shaped parts. Part IV Press-die forming of sheet-metal parts. Press-die forming of parts from developed blanks. Press die forming of recessed parts. Cartridge case fabricating. Impact extrusion and tubing. Part V Various sheet metal forming methods: Drop hammer forming of sheet metal parts. Rubber forming of sheet metal parts. Stretch forming of smoothly contoured sheet metal parts. Contour forming and roll bending. Spinning and roller flanging. Index.

Note: A treatise written on a higher level than the typical text in the field. The main theme is the metallurgical bases for particular techniques. The book is therefore of more interest to engineers in charge of design and production methods in large manufacturing establishments than to workers in small shops. Nevertheless, the treatment is eminently practical, and fabricating techniques are described in explicit detail. There is a liberal number of illustrations and the chapters are accompanied by selected bibliographies.

SCHLARMAN H.

Manual of die-head thread cutting. New York McGraw Hill Book Company Inc., 1949 266 p. illus. 21 cm. $4 50 2035

Contents Producing threads—equipment and methods. Unusual die-head adaptations. Types of die heads and chasers. Die-head troubles and maintenance. Chaser facts for the thread man. Principles and methods of sharpening the radial chaser. Principles and methods of sharpening the tangent chaser. Principles and methods of sharpening the circular chaser. General information on chaser usage. Gaging external threads. Thread troubles. Thread samples and analysis. The draftsman and the thread. Appendix. Index.

Note: A detailed description of the basic principles and methods of cutting threads by the use of self-opening die heads and chasers. The manual is intended to serve as a practical guide for the man on the job, and deals largely with the construction and operation of the machines and thread-gaging instruments. Special attention is given to methods of locating and eliminating the causes of poor workmanship, and to the proper maintenance of machines and tools. The book is well illustrated with numerous photographs and diagrams; thread formulas and pertinent standards and specifications are included in the appendix.

SCHULZE R. BURT

Aluminum and magnesium design and fabrication. New York McGraw Hill Book Company Inc., 1949 589 p. illus. 23 cm. $9.00 2036

Contents Characteristics and forms of the materials. Material properties and theory of forming. Machining operations. Experimental production forming methods. Limited-production forming—router, shaper, press brake—rubber hydraulic press. Limited-production forming methods—hydraulic press—mechanical press—drop hammer—contour roll former and stretch press. Mass-production forming methods, assembly procedures and tooling. Mechanical fastenings. Fastenings—welded and bonded. Cost analysis. General design principles. Design applications. Index.

Note: This book furnishes more information than has hitherto been available in book form on a number of metal-forming processes which are particularly adapted to the fabrication of light metals. For example, the chapter on forming with rubber on hydraulic presses is 74 pages long and contains 84 illustrations. The treatment of cost analysis also is comparatively full. Although the author is associated with the Glenn L. Martin Company and much of the information given is based on experience in airplane manufacture, the author has made a special effort to present the material so that it will be useful in other kinds of manufacturing.

SMITH ROBERT ERNEST

Machining of metal. Revised edition. Bloomington Illinois McKnight & McKnight, 1949 224 p. illus. 27 cm. $3.50 2037

Contents (abridged) Safety. Measurements and measuring instruments. The tool grinder and its operation. Drills and drilling. The lathe and its operation. The shaper and its operation. The milling machine and its operation. The power hack saw and its operation. Metal cutting band saws and their operation. Surface grinding machines and grinding. Appendices: Reference list. Projects. Appendix. Index.

Note: An introductory textbook designed for use in trade schools and vocational courses in high schools. It combines descriptions of standard metal working tools with explicit instructions for carrying out operations with them. Machine tools rather than hand tools are emphasized. There are more than 380 illustrations.

WOLDMAN NORMAN EMME, AND ROBERT C GIBBONS

Machinability and machining of metals. New York McGraw Hill Book Company Inc. 1951 518 p. illus. 24 cm. $8 00. 2038

Contents Principles of machining. The mathematics of machining. Cutting tools and tool design. Steel—general. Ingot iron, wrought iron, and low-carbon steel. Plain medium- and high-carbon steels. Alloy steels. Tool and die steels. Stainless steels. Cast iron. Aluminum alloys. Magnesium alloys. Copper alloys. Nickel alloys. Zinc alloys. Special metals and alloys. Nonmetallic materials. Cutting fluids. Appendix. Index.

Note: In this book the fundamentals of metal cutting are surveyed, first from the standpoint of the physical principles and second from the standpoint of the characteristics of specific metals or groups of metals, including alloys. In a typical chapter on a group of metals the following points are covered: a general description of the group with information on composition and properties, the effects of alloying elements on machinability, the effects of microstructure, the effects of physical conditions of the metal, suitable cutting tools, practical machining practices, recommended tools, and cutting fluids. Finally there is a bibliography of references to the literature.

FOUNDRY WORK

AMERICAN FOUNDRYMEN'S SOCIETY

Foundry sand handbook. Sixth edition. Chicago American Foundrymen's Society 1952 265 p. illus. 24 cm. $5.25 2039

Contents (abridged) Introduction. Mode of occurrence of sands and clays. Methods for sampling foundry sands and clays. Preparing foundry sand mixtures for testing. Methods for determining fineness of foundry sands—standard. Determining moisture in foundry sand mixtures—standard. Determination of permeability of foundry sands. Strength of foundry sand mixtures. Method for determination of green surface hardness—standard. Determining the sintering point

of sand mixtures. Elevated temperature tests on foundry sand mixtures. Chemical analysis of sand—non-standard tests. Tentative method of testing core binders (tensile strength). Mechanical properties of core sand mixtures. Method for determining strength of core paste—tentative standard. Non-standard tests. Interpretation of room temperature sand tests. Comments on maintenance of testing equipment. Foundry molding sand mixtures. Conversion tables. Terms used in foundry sand work. Bibliography on sand testing and control. Subject index.

Note: (1673) A standard manual of sand testing methods, tests, and testing equipment. The previous edition appeared in 1944. The present edition is an extensive revision which includes both new and revised tests. The useful bibliography contains chronological arrangement of papers and reports which have appeared in the Transactions of the sponsoring society, bibliography of the sand resources of the states of the United States and Canada, and an international bibliography arranged by country of publication on sand and sand testing.

AMERICAN FOUNDRYMEN'S SOCIETY

Symposium on interpretation and application of sand test data for the production of quality steel castings. Sponsored jointly by the A. F. S. Sand and Steel Divisions. Chicago. American Foundrymen's Society. 1951. 73 p. illus. 28 cm. Paper $5.25 2040

Contents: Introduction, by E. C. Troy. Room temperature tests: Room temperature tests, by J. H. Lowe. Statistical control of green sand properties, by W. J. Dowsey. High temperature tests: Properties of steel sands at elevated temperatures, by P. E. Kyle. Use of high temperature testing in control of steel foundry sand, by R. H. Jacoby and J. W. Mitchell. Interpretation and application of sand test data for the production of quality steel castings, with reference to the expansion test, by H. W. Meyer. Relationship of elevated temperature sand test results to hot tear occurrence in steel castings, by J. A. Rassenfoss. The dip test, by J. B. Caine.

Note: A collection of original papers on several aspects of the current status of sand testing in American foundries. It is pointed out that the techniques of testing sand and interpreting the test data have not yet reached the stage where sand tests can be correlated with castings quality. However, some progress toward this goal has been achieved and these papers describe it.

CAMPBELL, JAMES S., JR.

Casting and forming processes in manufacturing. New York. McGraw-Hill Book Company, Inc., 1950. 536 p. illus. 23 cm. $6.50 2041

Contents (abridged): Molding materials and equipment. Molding techniques. Making the larger molds. Solidification and risering. Gating. Sand testing. Pattern equipment. Molding machines. Cores and coremaking. Metals for sand casting. Melting. Cleaning and finishing. Mechanization. Inspection. Sand-casting design. Centrifugal casting. Precision investment casting. Permanent mold casting. Die casting. Plastics, molding and forming. Powder metallurgy. Rolling. Forging. Sheet-metal working. Punch press work. Index.

Note: A condensed survey of modern foundry processes and certain alternative processes such as forging. Substantially more than half of the space is devoted to the casting of metals and to the finishing of cast-metal products. Rolling, forging, sheet metal working, etc. are given less space, but enough is said about each technique to convey a fair idea of it and its uses. The book is designed chiefly as a general introduction for upperclass engineering students. A generous number of illustrations has been used, and the chapters conclude with short bibliographies. The book is intended as a companion to *Machine tools for engineers*, by C. R. Hine (see Index).

DOE, EDWIN W.

Foundry work. Prepared in cooperation with the Textbook Committee of the Educational Division, American Foundrymen's Society. New York. John Wiley & Sons, Inc. 1951. 109 p. illus. (part col'd) 24 cm. $1.76 2042

Contents: The foundry industry. Fundamental foundry processes. Foundry tools and equipment. Patterns. Sand molding. Baked sand cores. Melting and pouring metals and alloys. Cleaning and finishing castings. Occupational advantages in the foundry. Glossary of foundry terms. References and visual aids. Index.

Note. A textbook especially prepared for use in high schools and vocational schools. It contains a clear description of the common foundry processes and techniques. There are about 100 illustrations, a high proportion of these being reproductions of photographs of operations in foundries. The author is a member of the faculty of the Brooklyn Technical High School.

DOEHLER, H. H.

Die casting. New York. McGraw-Hill Book Company, Inc., 1951. 502 p. illus. 24 cm. $8.50. 2043

Contents. Die-casting machines. Die-casting dies. Theoretical and practical aspects of die casting. Design of die castings. Comparison of die casting with other production processes. Die sizes. Die-casting alloys. Finishing of die castings. Machining of die castings. Trimming and piercing of die castings. Inspection of die castings. Estimating the cost of die castings. Safety in the die-casting plant. Glossary of terms used in die casting. Index.

Note: A comprehensive manual written by one of the outstanding authorities on the subject. In addition to full discussions of the main aspects named in the chapter titles, there are discussions of such topics as spectrographic control of alloy composition, ultrasonic inspection of die parts, and inspection procedures for finished castings. There are literature references and an adequate number of illustrations.

HANEL, ALEXANDER V.

Text in patternmaking. Milwaukee. The Bruce Publishing Company. 1949. 314 p. illus. 24 cm. $2.96 2044

Contents (abridged): Molding and pattern allowances. Tools. Lumber. Pattern supplies and their use. Machinery. Pattern layout. Pattern joinery. Segmental and stave construction. Core prints and core boxes. Gear patterns. Cast construction. The foundry. Job: Hexagonal block. Cylinder. Link. Surface plate. Anvil base. Base bearing. Bracket bearing. Angle bracket. Bearing caps. Double bearing. Tapered column. Quadrant. Screw propeller. Glossary of patternmaking and molding terms. Index.

Note: A clearly written, well illustrated text on wood pattern making. It is designed for use in a full year course in vocational high schools. Also, it can be used for information by beginning workers in foundries. All of the fundamental tools and processes are covered, and the "Job" section gives detailed directions for the construction of the patterns for 40 typical castings.

HERB, CHARLES OLIVER

Die-casting: the die-casting process and its application in modern manufacture; die-casting machines; design of different types of dies; composition and properties of die-casting alloys; and the die-casting of zinc, aluminum, brass, and other non-ferrous alloys. Second edition. New York. The Industrial Press, 1952. 310 p. illus. 24 cm. $4.50. 2045

Contents. The die-casting process and its applications. Die-casting machines and their development. Alloys for die-casting. Die-casting dies and their operation. Multiple cavity dies for duplicate castings. Dies with auxiliary slides for outside cores. Sliding cores in movable and stationary dies. Adjustable dies for parts of different dimensions. Standards for designing die-casting dies. Steels for die-casting dies. Die-casting with semi-automatic machines. Die-casting finishing. Die-casting by the vacuum process. The unit system of die-casting. Die-casting cast iron. Index.

Note: A standard descriptive treatment, written by the editor of the periodical *Machinery*. It is a useful survey of the die-casting process and of die-casting machines and dies. There are many excellent illustrations, most of which show details of equipment. The first edition appeared in 1936. Although the titles of several chapters have been reworded, no new chapters have been added in this edition. Parts of the book, for instance the chapter on die-casting machines, have been revised to bring them up to date. The book is only ten pages longer, but somewhat more than ten pages of new material has been added because certain obsolete material has been dropped.

HULL, DANIEL R.
Casting of brass and bronze some practical aspects of brass and bronze casting in America, 1900 to 1950 Cleveland The American Society for Metals 1950 186 p. illus. 23 cm. $3.50 2046

Contents: Things as they were. Melting. Pouring. The brasses. Oxygen, hydrogen and deoxidizers. The mold. The mold dressing. Random observations. Conclusion. Index.

Note: An expert, very readable review of brass and bronze foundry practice. Although changes in the industry are sketched briefly in the first chapter most of the text deals with current practices. The author is Assistant Technical Manager of the American Brass Company and his book reflects long experience with brass and bronze casting.

MAREK, CLARENCE THOMAS
Fundamentals in the production and design of castings. New York John Wiley & Sons, Inc. 1950 383 p. illus. 20 cm. $4.50 2047

Contents: Casting processes. Green sand molding. Foundry sands and sand control. Patterns and related equipment. Cores and their applications. Foundry production equipment. Production planning. Physical and metallurgical properties of cast metals. Properties and uses of ferrous cast metals. Properties and uses of nonferrous cast metals. Melting of cast metals. Cleaning and inspection. Design for economical molding. Design to eliminate defects. Bibliography. Appendix. Index.

Note: A general introductory survey of the metalcasting processes, written for engineering students and graduate engineers who need some knowledge of these processes but are not directly concerned with foundry practices or management. All the commercially used processes are described, including shell molding, the lost wax process, etc., but most of the space is given to casting in sand molds and to the products of this process. The book is well organized and admirably illustrated. Its purpose is to enable engineers to design cast parts so that they can be produced economically.

SCHWARTZ, HARRY ADOLPH
Foundry science fundamentals underlying foundry practice. New York Pitman Publishing Corporation 1950. 286 p. illus. 24 cm. $6.50 2048

Contents (abridged): Structure of fluids and the phase rule. Structure of the solid state. Specific heat. Changes of state and latent heat. Free energy and binary equilibrium. Supercooling. Electric furnaces and heat losses in steady state. Carbon and hydrogen combustion. Heat transfer in unsteady state. Heating of furnace charges. Measurement of high temperatures. Direction of reactions. Rate of reactions. Origin and control of carbon in ferrous alloys. Microstructures of iron-carbon alloys. Effect of alloying elements on microstructure of iron-carbon alloys. Fluid mechanics of casting. Gating and feeding. Statistical control of processes. Supplementary reading. Name index. Subject index.

Note: Rather than a text on foundry practice, this book is an exposition of fundamental chemical and physical phenomena and principles that affect metal-casting processes. It is based on a series of lectures on theoretical metallurgy and foundry physics given by the author at the Case Institute of Technology. Although the original lectures were addressed to graduate engineering students, the material has been somewhat simplified in the book, and can now be studied at home by foundry engineers and supervisory personnel as well as by engineering students.

STEEL FOUNDERS SOCIETY OF AMERICA
Steel castings handbook. 1950 edition. Prepared under the direction of the SFSA Handbook Committee. Charles W Briggs, editor Cleveland, Ohio Steel Founders' Society of America, 1950. 511 p. illus. 23 cm. $4.00 2049

Contents: A brief history of the steel casting industry. Classes and advantages of steel castings. Commercial applications and industrial uses of steel castings. Steel casting design. The manufacture of steel castings. Heat treatment. Variables affecting the mechanical properties of steel castings. Mechanical properties of carbon cast steels. The properties of low alloy cast steels. Heat and corrosion resistant cast alloys. Austenitic manganese cast steel. Physical values pertaining to cast steel. Engineering properties of cast steel. Recommendations to purchasers of steel castings. Steel casting specifications. Definitions of foundry terms. Appendix: Chemical compositions of standard steels. Index.

Note: A reference manual and practical treatise for foundry workers, engineers, and others whose work requires technical knowledge of steel castings. A factual text is supplemented by many excellent photographs of castings and equipment, and by tabulated data regarding the composition and properties of various steels. This edition has been revised to include the technological developments which have occurred since 1941. The chapters on low alloy cast steels and heat treatment, in particular have been rewritten, and material has been added on pattern making and new types of alloys. The chapter bibliographies have also been brought up to date.

WOOD, RAWSON L., AND DAVIDLEE VON LUDWIG
Investment castings for engineers. New York Reinhold Publishing Corporation 1952 477 p. illus. 23 cm. $10.00 2050

Contents: History and description of investment casting. The master pattern and pattern die. Making soft metal dies. Wax versus plastic patterns. Frozen mercury for disposable patterns. Gating, clearing, clustering, venting wax and plastic patterns. Investment materials and techniques. The ceramic shell mold or precoat process. Melting and casting methods. Selection of low temperature nonferrous alloys for investment casting purposes. Selection of ferrous and refractory alloys. Foundry finishing investment castings. Foundry inspection operations. How to machine investment castings. Product design development by means of investment castings. Castings to replace fabricated parts. Design suggestions for investment castings. Investment castings for chemical and high temperature resistant applications. Some metallurgical observations of investment cast alloys. Some machinability tests on stainless steel. Bibliography. Index.

Note: The special slant of this treatise is indicated by the title. In other words, the book is written not from the viewpoint of founders but of engineers who design products to be cast or are responsible for the finishing of them after casting. The various investment processes, including not only "the lost wax" process but those in which other materials are used for the disposable pattern, are fully described, and particular attention is given both to their advantages and their limitations. Supplementary topics such as the selection of alloys for products to be made by investment castings are adequately covered. The text is supplemented by a substantial number of tables of engineering data. The book is based on a series of articles written by the authors and published in *Iron age* and other journals from 1948 through 1951. Only a short bibliography is included.

WELDING

ALTHOUSE, ANDREW DANIEL AND CARL H. TURNQUIST
Modern welding practice. With the collaboration of George E. Tabraham and Burl E. Ott. Second edition. Chicago Goodheart Willcox Company Inc., 1951 498 p. illus. (part col'd) 22 cm. $5.00 2051

Contents: Oxy-acetylene welding theory and practice. Oxy-acetylene welding equipment and supplies. Electric welding theory and practice. Electric direct current arc welding practice, equipment, and supplies. Alternating current arc welding. Electric resistance welding practice, equipment and supplies. Inspecting and testing welds. Soldering and brazing. Non-ferrous welding. Pipe and tube welding. Cast iron welding. Special ferrous metal welding. Cutting. Special forms of welding. Manufacture of metals. Properties and identification of metals. Heat treatment of metals. The welding shop. Modern welding, brazing and soldering applications and equipment. Technical data. Index.

Note: This book is used both as a text in vocational schools and as an elementary reference book. All types of welding are covered in a simple, practical style and the discussions are supplemented by 149 figures and numerous tables of data. The coverage is not encyclopedic but is adequate for beginners. The first edition appeared in 1942. One entirely new chapter has been added in this edition, and there are other useful revisions.

AMERICAN WELDING SOCIETY WELDING HANDBOOK COMMITTEE

Welding handbook. Third edition. New York American Welding Society 1950 1651 p. illus. 24 cm. $12 00 2052

Contents (abridged) Fundamentals of welding: Standard welding terms and their definitions. Physics of welding. Fundamentals of welding metallurgy Gas welding processes. Arc welding processes. Resistance welding processes. Miscellaneous welding processes: Forge welding. Thermit welding. Induction welding. Surfacing and metallizing. Brazing. Soft soldering. Cutting processes. Metals: Iron, wrought iron and carbon steels. Chromium irons and steels. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Copper and copper alloys. Nickel and high nickel alloys. Lead and zinc. Clad steels. Design and cost considerations. Inspection and quality control. Applications. Buildings. Bridges. Machinery construction. Pressure vessels and boilers. Railroads. Automotive products. Aircraft. Transmission pipe lines. AWS standards: Standard welding symbols. Standard methods for mechanical testing of welds. Author index. Subject index.

Note A standard encyclopedia of information about welding. Pictures of equipment and techniques are included, as are bibliographies of pertinent literature. In this edition the work has been substantially revised with much added material. The type was reset, and the book is now printed two columns to the page. The subject index alone runs to 69 pages.

AUSTIN JOHN BENJAMIN

Electric arc welding. Chicago American Technical Society 1952 280 p illus 22 cm. $3 90 2053

Contents: History and scope of welding. Arc welding machines. Electric arc-welding accessories. Fundamentals of arc welding. Lessons in electric arc welding. How to weld common metals and alloys. Hard facing. Pipe welding. Arc welding symbols. Machinery welding. Structural welding. Common methods of testing welds. Special metal arc processes. Index.

Note A simply-written, practical text for vocational school students and beginning welders. In addition to the descriptions of arc-welding equipment and general techniques, information is included on a number of specialized techniques such as bell hole welding in pipeline construction. The book is generously illustrated. The author is a welding engineer on the staff of the Republic Structural Iron Works, Cleveland, Ohio.

CHURCHILL HARRY D AND JOHN B AUSTIN

Weld design New York Prentice-Hall, Inc. 1949 216 p illus. 22 cm. $6.65 2054

Contents Introduction Construction materials of machine bases. Stress-analysis and design data. Designing arc-welded machine bases. Application of welded-design principles. Welding specifications. Welding procedure. Welding processes. Flame cutting and flame hardening. Forming of metals. Estimating welded machine-base costs. Appendices: Stress-design data Bibliography Index.

Note Although this book is concerned with one subject only the fabrication of bases for machines by welding, it presents an exceptionally thorough treatment of this subject. Furthermore, many of the techniques described are applicable to the welding of other articles. The book is well illustrated, and the text is supplemented by an extensive bibliography It won an award of The James F Lincoln Arc Welding Foundation.

HEATING PIPING AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION

Standard manual on pipe welding. [Second edition] New York Heating, Piping and Air Conditioning Contractors National Association, 1951 506 p illus. 23 cm. $7 50. 2055

Contents Welding—a tool of the contractor Description of welding processes Welding equipment maintenance. Selection and training of operators. Scope of pipe welding Materials and filler metals. Testing and inspection. Code welding—procedures—specifications. Templets and jigs. Layout and fabrication details. Estimating pipe welding costs. Co-ordination of facilities. Fabricating shop organization. Field welding shop organization. Alloy steels—chrome moly—stainless Aluminum and aluminum alloys. Copper and copper alloys. Nickel and nickel alloys. Cast iron. Lead welding and burning. Hard facing materials. Welding terms. Welding symbols. Tables and formulas. Index.

Note: A standard work in which the fabrication of piping installations in factories, office buildings, etc., by the use of welding techniques is treated primarily from the viewpoint of contractors who build piping systems. Techniques of fabrication in the shop and on the job are both described. Most of the space is given over to descriptions of materials and techniques, but other phases such as selling welded installations in competition with those put together with mechanical joints, selection of welding operators, etc., are covered as well. As a source of information on the welding of pipe the book is potentially useful to anyone concerned with the subject, whether he is a contractor architectural engineer or practical welder.

HENRY OTTO HAZELTON, AND G E. CLAUSSEN

Welding metallurgy, iron and steel revised by G E. Linnert. Second edition. New York. American Welding Society 1949 505 p. illus. 20 cm. $2 50 2056

Contents Metallurgy of welding. Types of steel and their manufacture. Welding methods and processes. Temperature changes in welding. The structure of metals. The mechanical properties of metals. Effects of alloying elements. Fluxes and slags. Simple welds in iron and steel. Shrinkage in welds. Preheating and postheat treatment. Difficulties and effects. Welding plain-carbon and low-alloy steels. Welding stainless and heat resisting steels. Welding tests. Appendices: Metallurgical data. Questions and problems. Abbreviations and chemical symbols. Index.

Note: (1939) A practical discussion for welders of the structure, properties, and composition of steels and other ferrous alloys. The material in the previous edition has been consolidated, rearranged, and amplified. A new chapter on welding tests has been included and an index has been added. Other additions are the suggested readings given at the end of each chapter, 60 new figures throughout the text, and new review questions. In accordance with general usage the Fahrenheit temperature scale has been substituted for the Centigrade.

MORRIS, JOE LAWRENCE

Welding principles for engineers. New York Prentice-Hall Inc. 1951 511 p. illus. 22 cm. $7.35 2057

Contents: Welding metallurgy A survey of the welding processes characteristics and applications. Testing and inspection of welds. Welding of commercial metals. Braze welding, brazing, soldering. Surfacing. Metal spraying. Filler materials. Flame heat-treatment. Oxygen cutting. Stress and distortion. Design for welding. Factors affecting welding production economy Index.

Note. The special viewpoint of this book is evident from the title and table of contents. Welding is treated as a technique of metal fabrication. All of the practical welding processes are described. Welding techniques are discussed in some detail but the discussions are directed to design and production engineers rather than to welders. The book was written for use as a text in engineering colleges, but it is suitable also for engineers in industry who desire an overall view of the subject. There are 53 tables and 245 figures.

PLUMLEY STUART

Oxyacetylene welding and cutting a course of instruction. Revised and rewritten by T B. Jefferson. Fourth edition. New York Mc Graw Hill Book Company, Inc., 1949 356 p. illus. 29 cm. $7.50 2058

Contents: The flame with many uses. Setting up oxyacetylene welding equipment. The welding gases, oxygen and acetylene. Welding torches and regulators. Acetylene generators. Welding sheet steel. Flame-cutting steel and cast iron. Welding and cutting small-diameter pipes. Pipe-line welding. Welding heavy gauge steel. Bronze welding. Fusion-welding cast iron. Brazing. Welding light metals. Welding monel, nickel, copper and brass alloys. Lead welding. Hard facing. Miscellaneous welding in the job shop. Tank welding. Boiler and Architectural welding. Welding news. The business side of welding. Appendix. Index.

Note: A textbook of concise, easy-to-understand instructions in welding and cutting techniques and their application in the fields of manufacture, construction, and repair. The present revision, by me-

use of its rearrangement of topics and additional material, has notably improved the book both as text for beginning welders and reference manual for members of the industry. The discussions on pipe welding, cutting, and hard facing have been considerably enlarged, as also those on the newer techniques of silver brazing and the welding of alloy steels, aluminum, and magnesium. A new chapter has been added on the systematizing of job shop operations and shop management. A glossary has been included, and the index refurbished.

SLOTTMAN, GEORGE V., AND EDWARD H. ROPER

Oxygen cutting. New York McGraw Hill Book Company, Inc., 1951 407 p. illus. 24 cm. $6.50 2059

Contents: Historical review. Fundamentals of the oxygen cutting process. The preheating flame. The effects of oxygen purity. The effect of metal temperature on the cutting action. The effect of alloying elements on the cutting action. The effect of oxygen cutting on ferrous alloys. Plant facilities for the cutting process. Oxygen cutting equipment. The oxygen lance. Fundamentals of hand cutting. Fundamentals of machine cutting. Types of cutting machines. Tracing devices and templets. Electronic tracing devices. Factors affecting the accuracy of machine cutting. Multiple and stack cutting. Heavy cutting. Flame machining. Flame scarfing. Cutting high alloy steels and nonferrous materials. Underwater cutting. Economics of cutting. The future of oxygen cutting. Index.

Note: This authoritative book is intended for use, not as an instruction manual for the technician, but as source of background information for engineers and research workers in the field of oxygen cutting. It thus includes detailed discussions of the underlying theory and the factors which affect the flame-cutting operation, together with descriptions of the techniques and equipment used in the various applications of the process. Both authors are associated with the Air Reduction Company Inc.

STANLEY, WALLACE ARTHUR

Resistance welding, designing tooling, and applications. New York McGraw Hill Book Company Inc., 1950 329 p. illus. 28 cm. $8.00 2060

Contents: Background for resistance welding. Resistance welding explained. Resistance welding versus other joining methods. Resistance welding with standardized equipment. Portable welding equipment. Special purpose machines for resistance welding. Designing "welded products" versus welding "designed products." Design considerations in resistance welding. Design considerations for spot welding. Design considerations for projection welding. Design considerations for seam welding. Design considerations for flash butt welding. Evaluation of weld quality. Tooling, handling, and material control for resistance-welding operations. Getting the most out of your resistance-welding equipment. Some techniques helpful with resistance welding. Index.

Note: A practical survey of an important technique in the manufacture of metal products. It is designed specifically for engineers concerned with manufacturing, but it is so clearly written and fully illustrated that it should be useful to anyone concerned with the type of welding from machine operators upwards. Besides the discussions of general principles and standard techniques, information is given on scores of small points, such as the effect of air pressure on machine speed. There are almost 800 illustrations but no references to the related literature. The author is associated with the Progressive Welder Company of Detroit.

INDUSTRIAL INSPECTION

AMERICAN SOCIETY FOR TESTING MATERIALS

Papers on radiography Presented at the fifty-second annual meeting, American Society for Testing Materials, Atlantic City N J., June 27 1949 Philadelphia American Society for Testing Materials 1950 95 p. illus. 23 cm. (Special technical publication no 96) Paper $1 75 2061

Contents: Introduction, by L. W. Ball. Recent progress in flash radiography by J. C. Clark. 10 mev X-ray techniques, by D. T O'Connor and others. Radiography and autoradiography by photoelectrons, by D. T. O'Connor and W. R. Maddy. Mobilizing the Van de Graaff generator for precision radiography by E. A. Burrill. A universal exposure calculator for radium radiography and its application to current radiographic films and techniques, by M. A. Kahn and others. A discussion of radiographic sensitivity by C. H. Hastings. A revised procedure for establishing radiographic standards, by L. W. Ball. An investigation of radiography in the range from 0.1 to 2.5 million volts, by W. W. Buechner and others.

Note: A collection of reports on new developments in the application of X-rays to the observation of internal structures of engineering parts and to non-destructive testing techniques. Descriptions are given of the apparatus and methods used by the authors in their research work carried on at such points as the Naval Ordnance Laboratory and the Massachusetts Institute of Technology. Written for metallurgists, physicists, and manufacturers of engineering materials.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on the rôle of non-destructive testing in the economics of production. Presented at the fifty third annual meeting, American Society for Testing Materials Atlantic City N J., June 27 1950 Philadelphia American Society for Testing Materials, 1951 157 p illus. 23 cm. (Special technical publication no. 112) Paper $2.50 2062

Contents: Introduction, by H. H. Lester. A basic guide for management's choice of non destructive tests, by R. C. McMaster and S. A. Wenk. Discontinuities in cast and wrought products that can be revealed by non-destructive tests, by K. R. Van Horn. The rôle of non-destructive testing in the economics of castings, by J. W Juppenlatz. The economics and practical application of cobalt 60 in the radiographic inspection of steel weldments, by W. L. Schwenn. The economics of wrought steel inspection, by C. D. Moriarty. Management's responsibility for insistence on nondestructive testing in the development of new engineering products and processes, by L. W Ball.

Note. The essential purpose of this symposium was to acquaint production and management engineers with the value of non-destructive testing in improving the quality of manufactured products. Specific tests and their fields of application are described and discussed in each paper. However the bulk of the material is contained in the first paper where the basic principles and features of twelve test methods are summarized. Included are tabulation of 110 patented methods and bibliography of approximately 500 references.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on ultrasonic testing, presented at the fifty-second annual meeting of the American Society for Testing Materials, Atlantic City N J., June 28 1949 Philadelphia American Society for Testing Materials 1951 133 p. illus. 23 cm. (American Society for Testing Materials. Special technical publication no. 101) Paper $2.00 2063

Contents: Introduction, by H. C. Antsberg. Ultrasonic wave propagation in materials guide to theoretical results, by L. Gold. Inspection, processing, and manufacturing control of metals by ultrasonic methods, by C. H. Hastings and S. W Carter. Basic principles of practical ultrasonic testing, by J. C. Smack. Ultrasonics in the heavy forging industry by J. C. Hartley The application of ultrasonics to the fabrication of aluminum, by J V Carroll. Ultrasonic testing in railroad work, by E. D. Hall Ultrasonics in the electrical industry by D. M. Kalmon. Ultrasonic testing of heavy forgings and ingots, by A. Pitch. Pulse techniques applied to dynamic testing, by J R. Leslie. The measurement of dynamic modulus in adhesive joints at ultrasonic frequencies, by A. G. H. Dietz and others. General discussion.

Note: The technique of ultrasonic testing employs ultra high frequency sound waves to detect internal or external flaws or foreign bodies in otherwise homogeneous media. The papers and discussions in this technical publication present summary of the history theoretical aspects, basic principles of practical testing, and practical

applications for the ultrasonic testing of materials. Two of the papers were presented at the meeting, and two at the 1950 annual A.S.T.M. meeting under the sponsorship of Committee E-7 on Non-Destructive Testing. The paper by Hastings and Carter is more extensive than the rest and contains a bibliography of 142 references, each reference being classified as to its general subject content.

CLAUSER, H. R.

Practical radiography for industry New York Reinhold Publishing Corporation 1952 301 p. illus. 24 cm $7 50 2064

Contents: Introduction. Nature, characteristics and properties of X-rays. The generation of X-rays and X-ray equipment. Procedures and radiograph interpretation. Exposure factors and technique. Sensitivity and radiograph quality. Films and film processing, screens and filters. Gamma ray radiography. Radiography of welds. Radiography of castings. Fluoroscopy. High voltage radiography. Other techniques and applications of radiography. Protection and safety. General index.

Note. The use of X-rays and gamma rays in the inspection of manufactured articles is presented in this book for metallurgists, inspectors, and other technical personnel directly concerned with radiographic inspection. The two background chapters are short and most of the space is given to descriptions of techniques and equipment. Technical terminology such as a person engaged in radiographic inspection would have to be familiar with is used freely but otherwise the presentation is simple and practical. The discussions are generously supplemented by graphs and pictures. Fairly extensive lists of references accompany the chapters.

KENNEDY CLIFFORD W

Inspection and gaging a training manual and reference work. New York Industrial Press, 1951 502 p. illus. 24 cm. $7.50. 2065

Contents: The need and function of inspection. How specifications aid the inspector. Tolerances and allowances. How standards aid the inspector. Basic principles and techniques of measurement. Fixed gages. Surface plate methods and equipment. Mechanical indicating equipment. Electrical and air indicating equipment. Optical measuring and inspection equipment. Gaging and inspection of screw threads. Special measuring and inspection problems. Gage checking and calibration. 100 per cent inspections. Quality control and sampling. Process inspections. Hints for making a good job better. Index.

Note. A clearly written introduction to the inspection procedures and instruments used in present-day precision manufacturing. For an introductory work it is unusually comprehensive. For example, the reader is told not only how to use gages but how to check their accuracy. However subjects such as quality control are only outlined. The book is well illustrated. It can be recommended to anyone from vocational school student to factory executive who is making his first acquaintance with inspection. It is well suited to home study.

MICHELON, LENO CENO

Industrial inspection methods. Revised edition. New York Harper & Brothers, 1950. 566 p. illus. 24 cm. $6 00 2066

Contents (abridged): Section I, Basic concepts in industrial inspection. Section II, Dimensional control: Nonprecision measurement. Precision measurement: micrometers and verniers. Plug, ring, and snap gages. Precision gage blocks. Comparison measurement: dial indicators and indicating gages. Precision angle measurement. Screw threads and thread gages. Comparators and automatic gages. Optical instruments. Surface plates and toolroom specialties. Statistical methods of quality control. Section III, Testing for physical and mechanical properties: Mechanical properties and destructive testing. Hardness testing. Industrial radiography. Section IV, Superficial inspection methods. Section V, Inspection organization and personnel. Section VI, Appendix: Bibliography. Manufacturers' catalogs and technical bulletins. Tables. Index.

Note (1944) A practical introduction to modern inspection instruments and methods. The first edition proved to be very useful in training new recruits in war plants. This edition is largely new in content. The work now includes good accounts of all the instruments commonly used in factory inspection, of the chief testing methods, and a concise description of quality control from the inspector's viewpoint. It is organized as a textbook and undoubtedly its chief use will be in conjunction with organized courses in technical institutes and other schools. However it is suitable for the beginning worker and others who want to instruct themselves.

THOMPSON, JAMES EDGAR

Inspection, organization, and methods. New York McGraw Hill Book Company Inc., 1950 369 p. illus. 24 cm. (Industrial organization and management series, L. C. Morrow consulting editor) $5.50 2067

Contents: Objectives and plan. Operation. Organization. Personnel. Standards. Records. Equipment. Measuring instruments. Gages. Test equipment. Receiving. Fabrication and assembly. Salvage. Shipping. Tools and tooling. Experimental and laboratory. Appendix: Typical inspection job evaluations. Typical inspection questionnaire. Index.

Note A practical survey of the organization, procedures, and human relation aspects of inspection systems in factories. In it are presented practicable methods of controlling and recording the results of inspection so as to maintain the quality of the product and to maintain harmonious relations between the inspection department and other factory departments. The main basis for the book was a personal survey on the part of the author of the organization of inspection in about 30 American industrial concerns. The book is written from the management viewpoint and the descriptions of gages and other instruments used in inspection are addressed to management and supervisory personnel.

ELECTRICAL ENGINEERING

GENERAL

BISHOP CALVIN C.

Electrical drafting and design. Third edition. New York. McGraw Hill Book Company Inc., 1952 267 p illus. 24 cm. $4.50 2068

Contents: General instructions for mechanical and electrical drafting. Circuit diagrams. Switchboard for direct-current generator. Switchboard for 2300-volt service. Outdoor substation. Residence wiring. Laying out wiring. Illumination. Industrial plant. Appendix. Index.

Note: (3700) An established text and reference manual on the making of drawings of circuit diagrams and wiring installations. It is addressed chiefly to student draftsmen enrolled in vocational schools, but it is suitable also as reference or refresher for working draftsmen in need of particular information on electrical drawings. The 125 page appendix consists mainly of tables of reference data useful to electrical draftsmen. The second edition was published in 1931. For this edition the work was very substantially revised and enlarged.

CORCORAN, GEORGE FRANCIS

Basic electrical engineering for students of electrical engineering. New York John Wiley & Sons, Inc., 1949 449 p. illus. 23 cm. $5.50 2069

Contents: Classification of physical quantities. Versatility of electrical charge. Voltage, current, and power. Electrical resistance and resistivity Joule's law—heating effects. D-c circuit analysis (lumped-bilateral circuit elements) The electric field. The magnetic field. Magnetic forces. Magnetically generated voltages. Ferromagnetic circuits. Inductance. Capacitance Boundary electromotive forces (Faraday's laws of electrolysis) Non-linear circuit elements. Appendices. Index.

Note: (3707) The fundamental concepts and some of the basic techniques of present-day electrical engineering are explained in this introductory textbook. As indicated in the title, it is designed for students who plan to pursue the subject beyond an introductory course. The emphasis is on basic concepts and techniques such as the vector properties of electric field intensity and practically no space is given to descriptive material. Rationalized MKS units are used throughout. A small amount of material has been carried over from *Electrical engineering fundamentals*, by the author and K. R. Kurtz (New York, Wiley 1941) but this is essentially a new work, although intended for the same class of reader.

DAWES CHESTER LAURENS

A course in electrical engineering. Volume I Direct currents. Fourth edition. New York McGraw Hill Book Company Inc., 1952 736 p. illus. 24 cm. (Electrical engineering texts, Harry E. Clifford, consulting editor) $7.00. 2070

Contents: Resistance. Ohm's law and the electric circuit. Battery electromotive forces—Kirchhoff's laws. Primary and secondary batteries. Electrical instruments and electrical measurements. Magnetism and permanent magnets. Electromagnetism. The magnetic circuit. Self- and mutual inductance. Electrostatics; capacitance. The generator. Generator characteristics. The motor. Losses; efficiency operation. Transmission and distribution of power Appendices. Questions and problems. Index.

Note. (3710) A successful introductory text. It is designed particularly for such persons as trade school students and electricians who do not plan to become professional electrical engineers but who need, nevertheless, a broad survey. Basic matters such as the properties of magnetic fields are not omitted but are treated in a simple manner. Although calculus is used in some parts, most of the text can be comprehended with a knowledge of mathematics no higher than elementary algebra. Extensive and useful revisions are found in this edition. There is more emphasis on fundamental aspects, and descriptions of new devices such as the Ruben cell.

ERICKSON, WILLIAM H., AND NELSON H. BRYANT

Electrical engineering: theory and practice. New York John Wiley & Sons Inc., 1952 523 p. illus. 24 cm. $6.00. 2071

Contents (abridged) Resistance. Electric circuit laws and d-c circuits. Magnetics and magnetic circuits. Electromagnetic induction. Inductance and capacitance. Alternating currents. Single-phase a-c circuits. Polyphase a-c circuits. Electrical instruments and measurements. The d-c machine. D-c motor control. Transformers. The three-phase induction motor. Three-phase synchronous machines. Single-phase motors. Introduction to electronics. Gas discharge tubes. Single-phase rectifiers. Thyratrons. Power rectifiers. Phototubes. Electronics in communications. Electronic control. Appendixes. Index.

Note. An introductory textbook designed for students majoring in other fields of engineering than electrical. A considerable range of basic machines and circuits is covered with the emphasis on basic principles. Some mathematics appears in certain parts of the exposition but, generally speaking, the treatment is essentially descriptive, or as the authors describe it "physical." The authors are members of the faculty of Cornell University

FICH SYLVAN

Transient analysis in electrical engineering. New York Prentice-Hall Inc., 1951 306 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W L. Everitt, editor) $7 65 2072

Contents: General theory Classical solution of linear differential equations. Classical solution of single-energy transients. Classical analysis of double-energy transients. Systems defined by second-order equations. The Laplace transformation. Applications of the Laplace transformation. Solution of higher-degree algebraic equations. Circuits involving higher-order equations. Representation and transformation of periodic and nonperiodic functions. Elements of complex-variable theory Applications of contour integration Systems having distributed parameters. Electrical analogues of engineering systems. Appendix: Table of Laplace transforms. Specific functions. Index.

Note: This textbook for electrical engineering students extends transient analysis to include modern operational methods and at the same time presents classical theory No previous knowledge of differential equations is needed. The chapters include summaries, illustrative examples with complete solutions, and over 300 problems, many of them with answers.

HARRIS FOREST KLAIRE

Electrical measurements. New York John Wiley & Sons, Inc., 1952 784 p. illus. 24 cm. $8.00. 2073

Contents: The art of measurement. Electrical units. Direct-current galvanometers. Indicating instruments. Direct-current ammeters and voltmeters. Potentiometers. Resistors and resistance measurements. Ballistic galvanometers. Magnets and magnetic testing. Alternating-current ammeters and voltmeters. The measurement of power. Energy measurements. Instrument transformers. Wave-form and frequency measurements. Alternating-current bridges. Index.

Note: This book is limited to direct-current and low-frequency measurements, but within this area it provides a very substantial treatment for laboratory workers and advanced students of physics. The operating principles and circuits of the chief instruments are described, and the limitations of each instrument are covered specifically. The main emphasis is on the use of available instruments so as to obtain results of the accuracy desired for the measurement in hand. The author is a physicist on the staff of the National Bureau of Standards and a faculty member of George Washington University.

KNOWLTON, ARCHER EBEN, editor in-chief

Standard handbook for electrical engineers prepared by a staff of specialists. R. M. Shoop assistant editor. Eighth edition. New York McGraw-Hill Book Company Inc. 1949 2311 p. illus. 23 cm. $17.00. 2074

Contents: Units and conversion factors, by A. E. Knowlton and J. H. Park. Electric and magnetic circuits, by H. B. Dwight and D. G. Fink. Measurements, by G. Thompson and others. Properties of materials, by L. F. Hickernell and others. Circuit elements, by C. R. Underhill and others. Transformers, regulators, and reactors, by V. M. Montsinger and W. M. Dann. Alternating-current generators and motors, by S. H. Mortensen and others. Direct-current generators and motors, by C. Lynn. Rectifiers and converters, by O. K. Marti and C. Lynn. Prime movers, by G. A. Gaffert and others. Power economics, by J. G. Tarboux. Power system electrical equipment, by C. M. Gilt and others. Power transmission, by W. W. Woodruff and others. Power distribution, by H. R. Gear, revised by H. G. T. Arnold. Wiring design—commercial and industrial buildings, by E. A. Brand, revised by W. T. Stuart. Illumination, by P. S. Millar and others. Industrial and commercial power, by L. W. Hutchenreuter and others. Electric heating and welding, by N. R. Stansel. Electricity in transportation, by S. Withington and others. Electrochemistry and electrometallurgy, by F. A. Lowenheim and N. R. Stansel. Batteries, by J. L. Woodbridge and W. M. Schlecher. Wire telephony and telegraphy, by W. L. Everitt, revised by F. T. McNamara. Electronics and electron tubes, by D. G. Fink. Radio, radar and carrier communication, by D. G. Fink and others. Codes and standard practices, by W. R. Smith and others. Electrophysics, by K. B. McEachron and others. Index.

Note: (3711) The practical value of this reference book has been maintained since its first edition in 1907 by the publication of new editions at frequent intervals. Its purpose is to bring together in readily accessible form a vast amount of technical data in the electrical engineering field, including the most frequently used fundamental theory, systems of measurements, and formulas. In addition to the changes necessitated by the development of new standards and specifications, other changes in this edition include a description of new magnetic and insulating materials, new sections on rotary regulators, induction heating, and radar, and a rewriting of the sections on generators, transformers, conductors, and interior wiring. The bibliographies given in each section have been brought up to date.

KUEHN, MARTIN H.

Mathematics for electricians. Third edition. New York McGraw-Hill Book Company Inc. 1949 372 p. illus. 21 cm. $4.50 2075

Contents (abridged): Solution of simple equations. Solution of series circuits. Fractions. Radical quantities. Multiplication and division of polynomials. Factoring. Solution of quadratic equations. The slide rule. Graphs. Parallel circuits. Generator and motor problems. Solution of literal and simultaneous equations. Kirchhoff's laws. Ratio and proportion. Exponents and logarithms. Fundamental alternating-current ideas. Vectors. Complex quantities. Three-phase circuits. Appendix: Answers to problems. Index.

Note: (3720) An elementary text in applied mathematics for use either in vocational school courses or for home study purposes. Emphasis is of course on the solution of electrical problems by means of arithmetic, but explanations of basic electrical principles are also included. As in the previous editions, numerous illustrative exercises and review problems constitute an important feature of the text. The major changes in this edition include new chapters on basic arithmetic operations, logarithms, and alternating-currents, and a rewriting of the chapter on power.

NADON, JOHN M., AND BERT J. GELMINE

Industrial electricity: the fundamentals of electricity, machines, electronics, illumination, and controlling equipment. Second edition. New York D. Van Nostrand Company Inc., 1951 710 p. illus. 24 cm. $6.50. 2076

Contents: Electrical algebra. Fundamentals of electricity. Wiring. Magnetism. Armature winding. Generators. Motors. Controllers. Geometry and trigonometry. Alternating current. A-c circuits. Transformers. Polyphase systems. Alternators. Alternating-current motors. Stator winding. Multispeed induction motors. A-c controllers. Electrical instruments. Electron tubes. Welding systems. Illumination. Electrical drawing. Index.

Note: (3725) A practical introductory text designed for use in vocational and industrial schools. It is especially slanted for students who are preparing to become electricians in industrial plants. Although some space is devoted to fundamental electrical theory, the main emphasis is on typical methods of application of electricity and electronics to present-day industrial machines, controls, and other electrical devices such as welders. It is simply yet clearly written. The chapters are logically developed and well illustrated with numerous original diagrams and drawings. Only simple arithmetic is used in the exposition and no previous introduction to electrical science or mathematics has been assumed. The authors are instructors in the Training Department of the Ford Motor Company where the book was developed. The first edition was published in 1939. In the present edition the book is about 100 pages longer and contains a considerable amount of revised and newly added material, particularly in the chapters on electron tubes, welding systems, and illumination.

PENDER, HAROLD, AND WILLIAM A. DEL MAR, editors

Electrical engineers' handbook: Electric power. Fourth edition. New York. John Wiley & Sons Inc. 1949 [1700 p.] illus. 23 cm. $8.50 2077

Contents (abridged): Mathematics, units, and symbols. Electric circuits and electric lines. Measurements and measuring apparatus. Batteries. Direct-current machines and rotary energy converters. Alternating-current generators and motors. Transformers. Power rectifiers and inverters. Switchgear and control equipment. Power transmission and distribution. Lighting and heating. Transportation. Electrochemical and electrothermal processes. Rural electrification distribution systems. Index.

PENDER, HAROLD, AND KNOX MCILWAIN, editors

Electrical engineers' handbook: Electric communication and electronics. Fourth edition. New York John Wiley & Sons, Inc., 1950. [1618 p.] illus. 23 cm. $8.50. 2078

Contents (abridged): Mathematics, units, and symbols. Resistors, inductors, and capacitors. Electron tubes. Electric circuits, lines, and fields. Fixed circuit elements. Vacuum tube circuit elements. Frequency modulation. Pulse techniques. Transmission circuits. Electrical measurements. Acoustics. Electromechanical-acoustic devices. Electro-optical devices. Sound reproduction systems. Telephony. Telegraphy. Facsimile transmission and reception. Television. Electronic control equipment. Medical applications of electricity. Index.

Note: (3716) A standard handbook of electrical engineering. The titles given in the short tables of contents are "section" titles. Each of the sections contains several chapters in which fundamentals and current practice pertaining to a specific topic such as X-ray tubes are concisely presented. The work has been widely revised in its fourth edition. Numerous topics such as electrolytic polishing of metals, permanent magnet materials, the heat pump, frequency modulation, pulse techniques, and electro-optical devices are either newly added or the discussion of them has been completely rewritten. All of the bibliographies have been revised and in some sections a bibliography has been inserted where none was before. The volumes have separate indexes and may be used independently.

REED, MYRIL BAIRD, AND GEORGIA B. REED

Mathematical methods in electrical engineering. New York Harper & Brothers, 1951. 338 p. 24 cm. $5.00. 2079

Contents: Imaginary numbers and hyperbolic functions. Linear algebraic equations—determinants. Matrix algebra. Zeros of polynomials—Graeffe method. Partial and continued fractions. Vector analysis. The Fourier series. Linear differential equations with constant coefficients. Transients in one-mesh electrical networks. Transients in multimesh networks. Bessel functions. Partial differential equations. Analytic functions of complex variable. Index.

Note: A textbook in which the authors has made special effort to present in compact form the mathematical knowledge essential to professional work in present-day electrical engineering. Mathematical concepts and techniques no longer in such use have been eliminated. On the other hand, such methods as matrix algebra are discussed at some length. The exposition includes numerous worked examples.

SCHILLING, EUGENE WASHBURN

Theory and application of electrical engineering. Scranton Pa. International Text book Company 1951 402 p. illus. 23 cm. $6.50. 2080

Contents: Abbreviations. Electricity. Resistance. Electric circuits. Energy and power. Magnetism and magnetic circuits. Induced electromotive force. Direct-current instruments and meters. Capacitance. The direct-current motor. Alternating currents. Alternating-current instruments and meters. Polyphase alternating currents. Transformers. Polyphase induction motors. Single-phase motors. Motor applications. Alternating-current generators. Synchronous motors and parallel operation of alternators. Electronics and electronic equipment. Electric tubes. The D-C generator. Storage batteries. Illumination. Transmission and distribution. Appendix. Index.

Note: An introduction to the fundamentals of electrical engineering for use in all types of college engineering courses. The coverage is more inclusive and less detailed than is typical of books that were written specifically for electrical engineering students. Although the basic theories of electricity are outlined, background knowledge of that subject is assumed together with grounding in advanced algebra. Review problems conclude each chapter. The author is Dean of Engineering in Montana State College.

STOUT MELVILLE BIGHAM

Basic electrical measurements. New York Prentice-Hall, Inc., 1950 504 p. illus. 22 cm. $7 75 2081

Contents: Development of the electrical units. Experimental procedures, errors. Aids to computation. Measurement of resistance. Galvanometers, shunts. Standard cells. Potentiometers. Applications of potentiometers. Alternating-current bridges: principles; bridge circuits. Additional measuring circuits. Measurement of mutual inductance. Shielding; shielded bridges. Characteristics of bridge components. Bridge accessories. Instrument transformers. Magnetic measurements. Electrical indicating instruments. Appendices: Sensitivity of Wheatstone bridge. Wye-delta transformations. Summary of a-c bridge circuits. Index.

Note: A fairly inclusive introduction to the basic electrical measurements and to standard measuring instruments is provided in this textbook. Although much descriptive material has necessarily been included, the emphasis is on fundamental matters, such as selection of appropriate methods, achievement of the desired degree of accuracy in observations and computations, and the principles of measuring instruments. The chapter on indicating instruments covers such devices as voltmeters, ammeters, wattmeters, varmeters, power-factor meters and cathode-ray oscillographs. The primary purpose of the book is to train college students who are majoring in physics or electrical engineering in the fundamentals of electrical measurements; but electricians, graduate engineers, and other technical workers who need occasional information on methods or instruments find it useful for reference.

TIMBIE, WILLIAM HENRY AND OTHERS

Principles of electrical engineering. By William H. Timbie, Vannevar Bush, assisted by George B Hoadley Fourth edition. New York John Wiley & Sons, Inc., 1951 626 p. illus. 23 cm. $7.00 2082

Contents: Some fundamental considerations. Kirchhoff's laws. Electric power and energy. Simplification of electric networks. Conductors and resistors. Conduction in solids and liquids. Transients in electric circuits. Alternating-current circuits. The magnetic circuit. Interactions between electric circuits and magnetic fields. The magnetic properties of iron and steel. Steady magnetic fields. Steady electric fields. Electronics. Electromagnetic waves. Appendix. Index.

Note: (1711) An introductory text, widely used in first-year college engineering courses. The treatment stresses basic principles and requires background knowledge of calculus and physics. Although retaining the general scope and arrangement of the previous editions, this revision has been extensively rewritten to relate the fundamental theories to recent practical developments in the field. The chapters on conductors and conduction and transients, in particular have been expanded, and chapter on a-c circuits has been added. These changes and the inclusion of new material on alternators, dry-rectifiers, acceleration of electrons, electron guns, etc., account for almost 130 additional pages.

VINAL, GEORGE WOOD

Primary batteries. New York John Wiley & Sons, Inc., 1950. 336 p. illus. 21 cm. $5.00. 2083

Contents: Historical introduction. Elementary theory of electric cells. Dry cells—materials and production. Operating characteristics of dry cells. Effect of low temperatures on dry cells, and low-temperature types. Standard cells, standards of electromotive force. Air-depolarized and other batteries. Copper and copper oxide cells. Silver oxide and chloride batteries. Lead cells having soluble reaction products. Mercuric oxide and vanadium dry cells. Fused-electrolyte cells. Index.

Note: A thorough treatise on topic which is almost devoid of book literature. Most of the discussion has to do with the chemical and electrical principles and the operating characteristics of primary batteries. Although descriptions and diagrams of commercial cells are included, the book is less suitable for the occasional user of dry batteries than it is for engineers who need to understand primary batteries in connection with the design of specification of electrical apparatus. The literature of the subject is cited in footnotes.

WESSON L. G

Tables of electric dipole moments, compiled by L. G Wesson. Cambridge, Massachusetts The Technology Press, 1949 90 p. 24 cm. $2.50 2084

Note: A tabulation of more than 2,500 compounds whose molecules are unsymmetrical and for which the dipole moment has been calculated. The inorganic compounds are listed alphabetically, the organic by formula, and each entry includes the solvent used, the temperature at which the substance was measured, the dipole moment value, and the literature references. The values, which are important in determining the dielectric properties of gases, liquids, and solids, were compiled by the Laboratory for Insulation Research at Massachusetts Institute of Technology.

CURRENTS FIELDS AND CIRCUITS

ATTWOOD STEPHEN STANLEY

Electric and magnetic fields. Third edition. New York John Wiley & Sons, Inc., 1949 475 p. illus. 24 cm. $6.00 2085

Contents: Part I, The electric field: The electrostatic field. Electric fields of simple geometries. Electric polarization and induction. Electric current. Solutions by method of images. Space charge—Laplace and Poisson equations. Mapping electrical fields. Energy and forces in condensers. Part II, The magnetic field: The magnetostatic field. Magnetic fields of simple geometries. Magnetic production of voltage. Energy and forces in an inductance. Part III, The ferromagnetic field: Ferromagnetism. Permanent magnets. Imaging and mapping magnetic fields. Part IV Combined electric and magnetic fields: Interactions of electric and magnetic fields. Appendices. Index.

Note: (904) An introduction to the principles and theories of electricity and magnetism for students in advanced electrical engineering courses. The book is intended to aid the student in applying his knowledge of mathematics, mechanics, and physics to the calculation and expression of fundamental electrical concepts. The revisions made in this edition include rewriting of the chapter on the source of magnetic effect and the addition of magnetization curves for various materials, and discussion of dia-, para- and ferromagnetism. As in the previous editions, emphasis is placed on the study of fields and field mapping methods rather than circuits. Each chapter concludes with review problems.

Boast, Warren Benefield

Principles of electric and magnetic circuits. New York Harper & Brothers 1950 367 p. illus. 24 cm. $5.00 2086

Contents: Part I, Basic electric circuits: Fundamental concepts of electric circuits. Voltage-current characteristics of passive circuits. Joule's law. Kirchhoff's laws and basic applications. Sources of electric energy. Basic electric measurements. Computation of conductance and resistance. Distribution circuits. Graphic methods applied to simple d-c circuits. Part II, Basic magnetic circuits: Fundamental concepts of nonferrous magnetic circuits. Magnetic properties of ferrous materials. Methods of solution for simple magnetic circuits. Graphic solutions of magnetic circuits. Hysteresis effects and permanent magnets. Part III, Basic electromagnetic circuits: Electromagnetic induction and generation. Inductance. Basic magnetic measurements. Part IV, Electric network analysis: General network methods. Graphic solutions of electric networks. Loop-current and node-voltage methods. Network theorems and their application. Part V, Supplementary aspects of electric and magnetic circuits: Currents in irregular-shaped conductors. Capacitance and its effect in electric circuits. General circuit equations of resistance-capacitance-inductance systems. Appendix. Index.

Note: This engineering college textbook covers in logical order the underlying principles of electric and magnetic circuits, including electromagnetic induction, electric network analysis, conduction circuits with irregular boundaries, capacitance and systematic methods of writing equations for circuits. Graphical interpretations of the mathematical laws are provided as a means of aiding the student in visualizing the relationships being considered.

Clarke, Edith

Circuit analysis of a-c power systems. Vol. II. New York John Wiley & Sons Inc., 1950 396 p. illus. 24 cm. $9.00 2087

Contents: Introduction and summary of equations. Impedances of electric circuits. Electrical characteristics of insulated cables. Transformers and autotransformers. Transformers in system studies. Induction machines. Synchronous machines. αβ0 components in synchronous-machine analysis. System protection—relays. Appendixes: Tables. Development of equations—rotating machines. Reciprocals of equations for circles and straight lines. Index.

Note: (3746) The first volume of this work was published in 1943. Either volume can be used independently but subjects covered at length in Volume I—for example overhead transmission lines—are of course not covered again in the second volume. The book is addressed primarily to graduate engineers, especially those who are just beginning to work with the analysis and design of a-c power systems. In both volumes power systems and their main elements are analyzed by means of components. The author was formerly associated with the General Electric Company

Goldman, Stanford

Transformation calculus and electrical transients. New York Prentice-Hall, Inc., 1949 439 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W. L. Everitt, editor) $8.65 2088

Contents: Introduction. Determinants. Properties of electrical circuits. Transient solutions of circuit problems by means of the Laplace transformation. Some fundamental concepts and relations in circuit theory. Theory of functions of a complex variable. Loci of complex functions. The inversion theorem and related topics. Gamma and error functions. Bessel functions. Transients in transmission lines—solution of partial differential equations. Solutions in series. Some additional applications to electrical engineering. Appendixes: Table of integrals. Table of identities involving hyperbolic functions. Some theory of transmission lines in the steady state. Table of Laplace transforms. Fourier integral analysis. Index.

Note: An introductory book for electrical engineers in which the equations and theorems of transformation calculus are developed from the level of simultaneous equations. It is written at the level of seniors or graduate students in electrical engineering, and is not intended for persons without knowledge of calculus, some knowledge of engineering and an elementary knowledge of complex quantities and differential equations. The author has coined the phrase "transformation calculus," as differentiated from Heaviside's operational calculus, to cover the emphasis upon the question of transformations between the time axis and the p plane. The subject is of particular importance to development and research workers in electrical engineering.

Guillemin, Ernst Adolph

The mathematics of circuit analysis: extensions to the mathematical training of electrical engineers. A publication of The Technology Press, Massachusetts Institute of Technology. New York John Wiley & Sons, Inc., 1949 590 p. 24 cm. (Principles of electrical engineering series) $7.50. 2089

Contents: Determinants. Matrices. Linear transformations. Quadratic forms. Vector analysis. Functions of a complex variable. Fourier series and integrals. Index.

Note. The series of which this volume is a part is the result of a planned cooperative effort by the staff of the Department of Electrical Engineering of the Massachusetts Institute of Technology to develop an adequate presentation of the basic technological principles of electrical engineering. The series includes *Electric circuits* published in 1940 and in 1943, *Magnetic circuits and transformers* published in 1943. The present volume has been published because it became apparent that extension of the mathematical material contained in the three volumes just mentioned would be useful to electrical engineers. The various mathematical concepts and techniques covered are treated from the standpoint of engineers rather than that of mathematicians, therefore the presentation is lacking in rigorous proof. A wide selection of problems to be worked by students is included.

Johnson, Walter C.

Transmission lines and networks. New York McGraw Hill Book Company Inc., 1950 361 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series, Frederick E. Terman consulting editor) $5.50. 2090

Contents: Part I, Transmission lines: Distributed constants and traveling waves. The a-c steady state—lines with no reflections. The constants of two-conductor lines. Lines with reflections. Transmission line charts. Special considerations for radio-frequency lines. Radio-frequency lines—measurements and impedance matching. Special considerations for telephone and telegraph lines. Special considerations for power lines. Part II, Four-terminal networks: A review of elementary network analysis. The characteristics of four-terminal networks. The lattice and iterative operation of four-terminal networks. Insertion loss and reflection factors. Filters. The design of ladder filters. Index.

Note: An engineering textbook which has been developed from material used by the author in courses given to advanced electrical engineering students at Princeton University. It is designed to serve the needs of students who are majoring in either power or communications engineering with the basic principles of transmission lines and four-terminal networks. Most of the elementary methods of analyzing four-terminal networks. Some space is given over to mathematical analyses of specific phenomena and characteristics, but some qualitative or descriptive material is introduced into the discussions of such phenomena as the skin effect and such special engineering problems as those presented by telephone lines.

Jordan, Edward Conrad

Electromagnetic waves and radiating systems. New York Prentice-Hall, Inc., 1950. 710 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W. L. Everitt, editor) $10.35 2091

Contents: Fundamentals of electromagnetic engineering. Electrostatics. The steady magnetic field. Maxwell's equations. Guided waves. Poynting vector and the flow of power. Directional plane waves. Transmission lines. Wave guides. Radiation. Impedance. Characteristics of antennas. Impedance characteristics of antennas. Antenna practice and design. Secondary sources and aperture antennas. Ground wave propagation. Sky wave propagation. Appendixes. List of symbols. Index.

Note: An introductory but substantial treatment of field theory for upperclass and graduate students majoring in physics or electrical engineering, especially those who are preparing for research or design in communications. The field vectors E and H are introduced on the first page of exposition and are used throughout the remainder of the book. The material on antennas is comprehensive enough to make it of interest to practicing communications engineers. Throughout the book there are footnote references and chapter bibliographies.

KEISTER, WILLIAM AND OTHERS

The design of switching circuits. By William Keister Alistair E. Ritchie and Seth H. Washburn. New York D Van Nostrand Company Inc., 1951 556 p 24 cm. (Bell Telephone Laboratories series) $8.00 2092

Contents: Fundamental control concepts. Switching apparatus. Basic relay control paths. Relay contact network configurations. Switching algebra, and manipulation of relay contact networks. Design of combinational relay circuits. Time charts, sequence diagrams, simplified schematics, and graphic descriptions of relay circuits. Design of sequential relay circuits. Elementary switch control circuits. Elementary electronic switching circuits. Circuits for counting. Codes and translating circuits. Circuits for selecting. Circuits for connecting. Circuits for lockout. Circuits for finding and hunting. Circuits for timing. Circuits for pulse generation. Circuits for checking. Circuits for registration. Circuits for calculating. General principles of multifunctional circuit design. Planning a multifunctional circuit. Detailed design of a multifunctional circuit. Index.

Note: Switching circuits constitute a highly developed area in telephone engineering, and the subject is becoming important in such other fields as the design of electronic computers. This book, written by members of the staff of the Bell Telephone Laboratories, Inc., is based upon telephone experience, but is a general and somewhat theoretical treatment adapted for use outside the telephone field. Though organized as a textbook and designed for upperclass engineering students as well as for practicing engineers, not much mathematics is employed. The greater part of the text can be understood by anyone with a moderate knowledge of electrical circuits and terminology

KIMBARK, EDWARD WILSON

Electrical transmission of power and signals. New York John Wiley & Sons, Inc. 1949 461 p illus. 24 cm $6.50 2093

Contents: Introduction. Parameters of simple two-conductor lines. Parameters of multiconductor lines. Parameters of stranded and miscellaneous conductors. Parameters of ground-return lines. Steady-state phenomena on transmission lines. Lossy lines. Transient phenomena on transmission lines. Transmission-line charts. Electric power transmission. Impedance matching. Telephone and telegraph transmission. Radio-frequency transmission lines. Filters. Skin effect. Wave guides. Appendixes: Characteristics of conductors for open-wire power transmission lines. Characteristics of transmission lines for power and signals. Index

Note: An engineering college textbook designed for courses offered to students who have had an introduction to circuits with lumped parameters. It is an introduction to circuits with distributed parameters. The theory of this type of circuit has application in both power transmission and communication engineering. The chapters are supplemented by fairly long lists of references. The author is Professor of Electrical Engineering at Northwestern University

KRAYBILL EDWARD KREADY

Electric circuits for engineers. New York The Macmillan Company 1951 212 p. illus. 25 cm. $3.85 2094

Contents: Part I, Basic considerations. General background. Part II, Causes: Electromotive force. Part III, Oppositions: Resistance. Inductance. Capacitance. Part IV Effects: Current flow through R, L, C. Effective values, vector representation. The algebra of complex numbers. Part [illegible] Application of (effect-cause/opposition) to electric circuits: Series circuits. Energy and power. Parallel circuits. Networks. Polyphase circuits. Appendixes. Index.

Note: A very compact presentation of the fundamentals of steady-state electric circuit theory is given in this book, which is intended chiefly for engineers specializing in fields other than electrical engineering. Except for the first two chapters, there is little descriptive material. Instead, such concepts as networks are carefully defined, then the reader is shown how to analyze typical examples and how to make the necessary mathematical computations involved in the analysis. Analogies with other physical systems, for example between capacitors and mechanical springs, are used frequently in the exposition.

LEPAGE WILBUR R.

Analysis of alternating-current circuits. New York McGraw Hill Book Company Inc. 1952 444 p. illus 24 cm. (McGraw Hill electrical and electronic engineering series, F E. Terman, consulting editor) $6 50 2095

Contents: Alternating-current systems. Introductory concepts. Metering and effective value. Symbolic treatment of sinusoids. Some integrodifferential equations. Sinusoidal excitations. Power. Applications of complex quantities. Network terminology and notation. Analysis of networks. Magnetic coupling. Polyphase systems. Variable-response networks. Nonsinusoidal periodic waves. Fourier series. Appendixes: Calculation of circuit parameters. D-c network analysis. Some trigonometric identities. Index.

Note: An introductory textbook for students of electrical engineering who have completed college courses in calculus, basic electrical engineering, and d-c circuit analysis. It covers the analysis of the steady state in lumped linear networks. Carefully worded definitions, rather full discussions, and a summary at the end of each chapter are features designed to aid comprehension on the part of the reader

LEPAGE, WILBUR R., AND SAMUEL SEELY

General network analysis. New York Mc Graw Hill Book Company Inc., 1952 516 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman consulting editor) $8 00. 2096

Contents. Complex quantities. Generalized network analysis. Network theorems. Magnetic coupling. Four-terminal networks. General properties of lumped networks. Selective networks. Polyphase systems and symmetrical components. Circuits with distributed properties. Impedance and admittance charts. Fourier series in circuit analysis. Transients in linear systems. The Fourier integral. Operational calculus. References. Appendixes. Index.

Note: A textbook designed for use in engineering colleges. It is introductory to the subject and so written that it is suitable for both students of communications engineering and power engineering. The authors are members of the Department of Electrical Engineering in Syracuse University

RYDER, JOHN DOUGLAS

Networks lines and fields. New York Prentice-Hall, Inc., 1949 462 p illus. 22 cm. (Prentice-Hall electrical engineering series, W L. Everitt, editor) $7 65 2097

Contents: Network transformations and theorems. Resonance. Impedance transformation and coupled circuits. Filters. The general transmission line. The high frequency line. Equations of the electromagnetic field—radiation. Transmission and reflection of plane waves at boundaries. Guided waves between parallel planes. Wave guides. Appendices. Index.

Note: An engineering college textbook written by the Head of the Department of Electrical Engineering of the University of Illinois.

SKILLING HUGH HILDRETH

Electric transmission lines distributed constants, theory and applications. New York McGraw Hill Book Company Inc., 1951 438 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series F E. Terman, consulting editor) $7.00. 2098

Contents: Part I, Theory. The basic equations. Traveling waves. Standing waves on low-loss lines. Lines with loss. Line parameters. Line constants: inductance and capacitance. Line constants: resistance, skin-effect, and insulation loss. Artificial lines. Part II, Applications: Application of transmission-line theory to telephone lines. Introduction to filters. Application to power lines. Application to radio-frequency lines. Introduction to wave guides. Part III, Transient traveling waves: Traveling waves. Appendixes. Index.

Note: An engineering college textbook in which all types of electric transmission lines from power lines to coaxial cables and hollow wave guides are treated. Somewhat more attention is given to lines designed for transmission and microwave frequencies than to other types of lines. The treatment is introductory to transmission lines, but familiarity on the part of the reader with ordinary circuit theory involving lumped constants has been assumed. According to the

author the material has been thoroughly tested in his own classes at Stanford University

SUNDE, ERLING DITLEF

Earth conduction effects in transmission systems. New York D Van Nostrand Company Inc., 1949 373 p illus. 24 cm. (The Bell Telephone Laboratories series) $8.50 2099

Contents. Basic electromagnetic concepts and equations. Earth resistivity testing and analysis. Resistance of grounding arrangements. Mutual impedance of insulated earth-return conductors. Propagation characteristics of earth return conductors. D-c earth conduction and corrosion protection. Power system earth conduction and inductive interference. Surge characteristics of earth-return conductors. Lightning protection of cable and transmission lines. Appendix: Definitions and tables of functions. References. Index.

Note: Circuit disturbances in communication and power systems and the corrosion of buried metallic structures arise in some measure from the fact that in such systems the earth is utilized as return conductor. This volume discusses the basic principles and methods of analysis of earth conduction effects as they may be applied in the solution of problems relating to the prevention of these disturbances and corrosive effects. The treatment, which is highly theoretical and based largely on experimental studies conducted at the Bell Telephone Laboratories, is intended for professional communication engineers and graduate electrical engineering students. A selected seven-page bibliography is included.

TANG KWAN YAU

Alternating-current circuits. Second edition. Scranton Pennsylvania International Textbook Company 1951 605 p. illus. 24 cm. (International textbooks in electrical engineering Erwin E. Dreese, consulting editor) $6 00 2100

Contents. Alternating current and voltage. Vector representation of sine waves. Elementary circuit concepts. Hypothetical circuits—sinusoidal current and voltage. Series circuits. Complex quantities. Parallel circuits. Series-parallel combination of elements. Real and apparent power. Network theorems. Mutual induction and coupled circuits. T sections of modified or equivalent coupled circuits. Impedance transformation. Polyphase circuits. Power measurements in three-phase circuits. Symmetrical components. Non-sinusoidal waves. Circuits with non-sinusoidal voltages and currents. Differential equations. Direct current transients. Alternating-current transients. Transmission line calculations. Appendices. Index.

Note. (3744) An introductory textbook in the analysis of alternating current circuits. It is designed for use in upperclass undergraduate courses offered to students of both power and communication engineering. Completion of courses in calculus and algebra at the college level is prerequisite, but the student is introduced to differential equations in the book itself. In this edition numerous revisions and additions are apparent, most of them directed towards facilitating comprehension on the part of the student. Also, the chapter on impedance transformation is new addition.

WEBER, ERNST

Electromagnetic fields theory and applications. Volume I Mapping of fields. New York John Wiley & Sons, Inc. 1950 590 p. illus. 22 cm. $10.00 2101

Contents. The electrostatic field. The magnetostatic field. General field analogies. Fields of simple geometries. Experimental mapping methods. Field plotting methods. Two-dimensional analytic solutions. Three-dimensional analytic solutions. Appendices: Letter symbols for electrical quantities. Conversion tables for units. Review of fundamentals of vector analysis. General bibliography. On Bessel functions. On Legendre functions. Index.

Note. Although primarily an engineering college textbook written at the postgraduate level, this work is comprehensive treatment of field plotting in which mathematical, graphical, and experimental methods all are covered. Literature references are given as footnotes and in the general bibliography. The present volume deals with the mapping of static fields. second volume still to be published will cover the dynamic interaction of fields.

POWER SYSTEMS

BEWLEY, LOYAL VIVIAN

Traveling waves on transmission systems. Second edition. New York John Wiley & Sons, Inc. 1951 543 p. illus. 24 cm. $12.00. 2102

Contents (abridged). Part 1. The origin, characteristics, and behavior of traveling waves. The line equations. The shape, attenuation, and distortion of waves. Reflection of traveling waves. Lightning. Traveling waves on multiconductor systems. Transition points on multiconductor circuits. Multivelocity waves. Theory of ground wires. The counterpoise. Induced lightning surges. Switching surges. Protection of transmission systems against surges. Part 2. High frequency oscillations and terminal transients of transformers. Ideal two-winding transformers. Waves of arbitrary shape applied at one or both terminals. Terminal transients. Suppression of internal oscillations by electrostatic shielding. Appendix. Index.

Note. (3741) An important work for electrical engineers concerned with the protection of electric power transmission lines and transformers against lightning and voltage surges caused by switching. Theories and design procedures are covered from the standpoint of their practical use. The book is organized so that it may be used as textbook. However the writing is essentially on graduate level and is addressed to advanced students of electrical engineering and beginning graduate electrical engineers. The second edition contains about twice as much matter as the first edition.

BLOOMQUIST WALTER CARL, editor

Capacitors for industry their selection, application, and economics for power-factor improvement of industrial plants, by W C. Bloomquist C. R. Craig R. M Partington and R. C. Wilson. New York John Wiley & Sons, Inc., 1950 246 p. illus. 24 cm. $4.50. 2103

Contents (abridged). Capacitor facts and fallacies. Power-factor fundamentals. Instruments and measurements for power-factor studies. Release of power system capacity. Voltage improvement. Power system losses. Power-factor rate studies. Application of capacitors to motors and generators. Harmonics and resonance; switching. Automatic-control equipment. Series capacitors. Capacitor standards and operating characteristics. Capacitor ratings, estimating prices, types of equipment. Capacitor installation and maintenance. Selected bibliography. Appendix. Index.

Note. A practical document for plant electrical engineers, electricians, and others who are concerned with the electric power installations in factories and other industrial establishments. The economic and engineering aspects of capacitors in such systems are discussed compactly and authoritatively. Problems, such as occur in designing power systems with capacitors or installing capacitors in an established system, are worked out in step-by-step detail. Much engineering data are presented in tables and graphs. There is useful annotated bibliography. Three of the authors are associated with the General Electric Company.

EARP UNUS F

Rural electrification engineering. New York McGraw Hill Book Company Inc., 1950 313 p. illus. 24 cm. $4.50. 2104

Contents. Introduction. Electrical fundamentals. Rural distribution systems. Types of construction. Materials of construction. Fundamentals of rural distribution line design. Layout and design of rural distribution lines. Mechanical design for rural lines. Electric motors. Switches and controls. Heat. Radiation. Electronics. Electrical measurements. Financial considerations. Organization and administration. Index.

Note. A book designed primarily for college students in agricultural engineering or for administrators studying for careers in agricultural engineering or for administrative and engineering positions with rural electrical cooperatives. It covers selected aspects of power system administration and electrical engineering which are of special importance in rural electrical distribution and the use of electrical power on farms. A moderate amount of previous education in engineering fundamentals is assumed, but in its own area the book is introductory. Nevertheless, the discussions of such topics as the design of rural distribution lines are complete enough to prepare the reader for practical work.

KIMBARK EDWARD WILSON
Power system stability Volume II Power circuit breakers and protective relays. New York John Wiley & Sons Inc. 1950 288 p. illus. 24 cm. $8.50 2105

Contents: Fault clearing—power circuit breakers. Fault clearing—protective relays. The influence of reclosing and out-of-step operation upon protective relays. Rapid reclosing. Index.

Note: (1814) The second volume published of projected three-volume work. Volume I, published in 1948, was devoted to fundamental problems and methods of calculating stability and instability characteristics, and to related topics such as alternating-current calculating boards. Volume II covers the topics noted above. Volume III will deal with synchronous machines, excitation systems, etc. The work is development of lectures given at Northwestern University in evening courses offered to graduate engineers, and the clear concise style of the lectures has carried over to the book. Extensive bibliographies appear in the present volume.

LEWIS, WALTER WALLACE
The protection of transmission systems against lightning. New York John Wiley & Sons Inc., 1950 418 p illus. 24 cm. $10.00 2106

Contents: The accumulation of electricity in clouds. The mechanism of the lightning stroke. Voltage caused by lightning and switching. Current in the lightning stroke. Wave shape of lightning voltages and currents. Shielding by overhead ground wires and masts. Means for obtaining low tower footing resistance. Insulation and spacing of conductors. Alternative methods of protecting transmission lines. Protection of stations and rotating machines. Grounding the neutral. Appendixes: Effect of altitude and humidity on flashover. Calculation of capacitance of transmission lines. Index.

Note: A compact presentation of information about lightning and how electrical transmission systems are protected against it. It is addressed mainly to graduate electrical engineers who are concerned with the design or maintenance of power lines and systems. The important theoretical knowledge is stated concisely and the operating principles of the chief protective devices are clearly explained. Each chapter is supplemented by lists of related literature. The author, now Professor of Electrical Engineering at Cooper Union, was associated with the Central Station Engineering Division of the General Electric Company for twenty-five years.

LOVELL ALFRED HENRY
Generating stations economic elements of electrical design. Fourth edition. New York McGraw Hill Book Company Inc., 1951 431 p. illus. 24 cm. $6.50 2107

Contents: Elementary principles of corporate finance. Cost of stations. Economic decay. Power-plant load curves. Economic conductor section—power distribution systems. Power plant location. Bus systems and current limiting reactors. Generating station auxiliaries. Circuit breakers and their applications. Introduction to single-phase short circuits. Protective relays and their applications. Transmission lines with synchronous condensers.

Note: An engineering college textbook in which the student preparing for career in power plant design is introduced to the economic aspects of this field. Corporate finance is discussed briefly in the first chapter, but the remainder of the book deals with matters that are of more direct concern to engineers—such as the economics of load curves, the economics of conductor sizes, etc. Not all of the text has been changed, but revisions have been made wherever required as in the discussion of holding companies, fuel, circuit breakers, etc.

MARBURY R. E.
Power capacitors. New York McGraw-Hill Book Company Inc., 1949 205 p. illus. 24 cm. $4 50 2108

Contents: Capacitor materials and characteristics. Capacitor rating, design, and manufacture. Industrial, high-frequency and d-c power capacitors. Application of shunt capacitors to industrial power circuits. Application of shunt capacitors to utility systems. Fuses, switches, and connectors used with shunt capacitors. Automatic control of capacitor bres. Series capacitors for line-reactance compensation. Series capacitors directly applied to specific industrial loads. Capacitor installation and maintenance. Index.

Note: A review of the uses and applications of large-scale capacitors or condensers in electric power systems. The design, construction and operation of capacitors are described; but the author—who is on the staff of the Westinghouse Electric Corporation—is concerned primarily with showing how power capacitors may be selected and utilized to solve various power problems.

PETERSON HAROLD A.
Transients in power systems. New York John Wiley & Sons, Inc., 1951 361 p. 24 cm. $8.50 2109

Contents: Overvoltages during power system faults. Effect of saliency on overvoltages during faults. System voltage recovery characteristics—fundamental concepts. System voltage recovery characteristics—miniature-system approach. Effects of arc restriking on recovery voltage. Switching surges—capacitance circuits. Switching surges and overvoltage arrester discharge requirements. Overvoltages caused by sudden loss of load. Overvoltages caused by open conductors. Some additional non-linear circuits. Appendix: Nomenclature. Equations for differential analyzer. Equations for calculation of overvoltages. Equivalent circuits for various types of faults. Bibliography. Index.

Note: An advanced book for graduate students preparing for work in the design of power systems and for graduate engineers already at work in this field. Modern methods of analysis including the transient analyzer and the differential analyzer are covered. According to the author considerable part of the information included has not been published before. The long bibliography includes an author index to the cited papers and also chronologically arranged list of references beginning with 1900 and including two publications in 1951.

RÜDENBERG REINHOLD
Transient performance of electric power systems phenomena in lumped networks. New York McGraw-Hill Book Company Inc., 1950 832 p illus. 23 cm. (McGraw Hill electrical and electronic engineering series F E. Terman consulting editor) $12 00. 2110

Contents (abridged): A. Transient performance of lumped linear circuits. Part I, Simple electric circuits: Switching on and off self-inductive circuits. Charging and discharging capacitive circuits. General laws of switching. Transient state of oscillatory circuits. Part II, Magnetically linked circuits: Mutual induction in circuits at rest. Switching of transformers. Commutation flux in rotating machinery. Mechanical and thermal short-circuit effects. Part III, Inertia effects of rotating masses: Acceleration of machinery. Starting of induction motors. Mechanical oscillations in alternating current machinery. Impacts on synchronous machines from switching. Part IV, Influence of the earth: Ground fault currents in insulated systems. Atmospheric fields above the line. Electrostatic induction on adjacent lines. Return currents under transmission lines. Inductive interference with communication lines. B. Performance of circuits of non-linear characteristics. Part V, Variable resistances: Heating of cooled conductors. Melting of fuse wires. Part VI, Interruption by electric arcs: Interruption of alternating current. Three-phase interruption. Natural oscillations sustained by arcs. Part VII, Magnetic saturation in circuits at rest: Switching of saturated direct-current circuits. Higher harmonics. Nonharmonic oscillations. Part VIII, Saturated rotating machinery. Bibliography. Index. Tables of functions.

Note: A thorough treatment of phenomena resulting out of short circuits, lightning, and many other varieties of disturbances in electric power distribution systems. The original edition, published in Germany before World War II, gained an international reputation among engineers. This edition, which has been written directly in English by the author, is more comprehensive than the German edition and covers the developments since 1933. Mathematical parts of the exposition are well buttressed with narrative discussion and illustrative matter. The book is addressed to advanced students of electrical engineering and practicing electrical engineers.

ELECTRIC MACHINERY

ALGER PHILIP LANGDON
The nature of polyphase induction machines. New York John Wiley & Sons, Inc. 1951 397 p. illus. 24 cm. $7.50. 2111

Contents Basic principles. Circuit analysis. The revolving magnetic field. The polyphase induction motor. Polyphase induction motor performance calculations. Design of induction machines. Reactance calculations. Speed-torque-current relations. Crawling and locking. Magnetic noise and voltage ripples. Rating and application of polyphase induction motors. Generalized equivalent circuit. Index.

Note The polyphase induction motor—aptly described as the workhorse of American industry—is the main topic in this book. Its elements, characteristics, and performance are studied from the standpoint of engineering analysis and design. All aspects that are of concern to the designer of motors are discussed, including such tangential topics as frames and motor noise. The book will be of interest mainly to advanced engineering students who are preparing for careers in motor design and to graduate engineers beginning work in the field.

BEWLEY LOYAL VIVIAN

Alternating current machinery New York The Macmillan Company 1949 376 p illus 24 cm. $3.50 2112

Contents General principles and common features. The transformer. General principles of rotating machines. The polyphase induction motor. Single phase induction motor. Alternating current commutator machines. The synchronous generator and motor. The synchronous converter. Appendices. The distribution summations. Armature reaction. Permeances and flux density. Induced voltages. Index.

Note The chief types of alternating current machines are treated analytically in this rather unusual textbook. Various methods of analysis are presented although the author derives general equation of voltage and general equation of armature reaction which offer comparatively simple ways of analyzing any electrical machine. These equations are the high point of the presentation, but the book has a number of other features not often encountered in introductory textbooks. It was developed at Lehigh University where the author is Professor and Director of the Curriculum in Electrical Engineering.

BLUME LOUIS FREDERICK AND OTHERS

Transformer engineering a treatise on the theory operation and application of transformers by the late L. F Blume A Boyajian G Camilli T C Lennox S Minneci V M Montsinger Second edition New York John Wiley & Sons Inc. 1951 500 p illus. 24 cm. $7.50. 2113

Contents (abridged) The general nature of transformer problems. Excitation characteristics of the transformer exciting current and core loss. Non-triple harmonic phenomena due to transformer exciting current. Impedance characteristics of transformers. Impedance characteristics of multicircuit transformers. Short-circuit currents and voltages by the method of symmetrical components. Transformer connections. Auto transformer connections. Thermal characteristics of transformers. Characteristics of transformer circuits for changing ratio under load. Automatic operation of voltage-control equipments. Phase-angle control. Characteristics of insulations. Voltage stresses in auto-transformers in Y-connection. Transient voltage characteristics of transformers. Insulation coordination of transformers. Index.

Note (3782) A substantial, detailed treatise designed for electrical engineers and other technically trained men whose work involves the specification, selection, or operation of transformers. The emphasis is on basic matters rather than descriptive data. The authors are all associated with the Transformer Engineering Division of the General Electric Company. Although most of the text of the present edition has been carried over from the first edition, important changes have been made, particularly in the discussions of thermal characteristics and insulation.

BRAYMER, DANIEL HARVEY AND A C ROE

Rewinding small motors practical details of repair shop practice with step-by-step procedure for rewinding all types and designs of fractional-horsepower direct and alternating current motors. Third edition. New York McGraw Hill Book Company Inc. 1949 422 p. illus. 24 cm. $6 00 2114

Contents (abridged): Part I. General data and direct-current armatures. Recording winding data and stripping direct-current armature. Back lead and machine loop windings. Special chorded split pitch loop winding. Parallel two-coil loop winding. How to determine the position of the commutator on the shaft. Connecting up hand-wound armatures. Part II. Rewinding procedure for small alternating current single-phase motors: Information to record for small alternating-current motors before stripping them. How to make up a skein and wind it in small alternating-current stators. Rewinding small universal motors. Rewinding compensated series motor. Single-phase fan motor windings. Three special alternating-current motors. Part III. Rewinding procedure for small alternating-current three-phase motors: Rewinding small three-phase stators. Diamond to round end coils. Chord factors for three-phase windings. Overlap windings. Round end overlap alicone winding. Index.

Note (3784) One of the standard shop books for motor repairmen and armature winders. In its present edition it is intended as a companion volume to C. G. Veinott's *Fractional horsepower electric motors* (3104). Together the two books provide thorough coverage of small motors, such as are commonly used to drive vacuum cleaners, fans, domestic water pumps, etc. Revisions in the third edition of the present title are important and have to do with such matter as the newly developed insulating materials. As in previous editions, rewinding operations are described in specific detail.

CONCORDIA, CHARLES

Synchronous machines theory and performance. New York John Wiley & Sons, Inc., 1951 224 p. 23 cm. $5.50. 2115

Contents. Physical description of a synchronous machine. Mathematical description of a synchronous machine. Steady-state, balanced, synchronous operation. Three-phase short-circuit current. Single phase short-circuit current. Double-line-to-ground short circuit and sequential faults. Short-circuit torques. Starting torque. Voltage dip. Appendixes. References. Bibliography. Index.

Note Most of the world's electric power is generated by synchronous generators and is turned back into work by other synchronous machines ranging in size from the small motors in electric clocks to the largest alternating-current motors in use in industry. This book is devoted to the theory of the transient performance of such machines, that is their behavior under short circuits, starting loads, etc. The subject is treated mathematically and the book's chief purpose is to aid graduate engineers in finding solutions by means of mathematics to new problems encountered in the design and operation of synchronous machines.

CROUSE, WILLIAM HARRY

Electrical appliance servicing. New York McGraw Hill Book Company, Inc., 1950. 854 p. illus. 24 cm. $8.50. 2116

Contents (abridged) Section 1, Fundamentals. Principles of electricity. Physical principles. Magnetism and motors. Transformers, generators, and batteries. House wiring. Section 2, Resistance-heating appliances: Electric heaters. Automatic electric waffle bakers. Electric coffee makers. Electric irons. Electric toasters. Electric water heaters. Electric broilers and roasters. Electric ranges. Section 3, Motor-driven appliances. Fans and blowers. Electric water pumps, home motors. Vacuum cleaners and floor waxers. Food mixers. Electric clocks. Electric dishwashers. Electric ironers. Garbage disposers. Electric and gas clothes dryers. Automatic washing machines. Automatic electric and gas clothes dryers. Section 4 Refrigeration and air conditioning: Refrigerator service. Air conditioners. Appendixes. Index.

Note A comprehensive book on the repair of household electrical appliances. It is written primarily for men who are in the business of repairing such appliances and for students who are preparing to enter the business. Its arrangement suits it for use either as a textbook in organized vocational courses or as a reference book. As might be expected, the information on any particular type and make of appliance is not as detailed as would be provided in a manufacturer's manual. However, a better picture is given of general servicing procedures and in many cases enough information is supplied to enable the service man to make repairs without consulting the manufacturers' manual.

CROW LEONARD R.

Saturating core devices operating principles and applications. Vincennes, Indiana The Scientific Book Publishing Company 1949 373 p. illus. 22 cm. $4.20. 2117

Contents: Fundamentals of saturable-core reactor devices. Applications and modifications of d-c controlled saturable-core reactors (non-electronic applications). Saturable-core reactor applications involving special and advanced theories of operation. Permanent magnet controlled saturable-core reactor. The a-c controlled saturable-core reactor. Peaking transformers and voltage waveforms. A-c voltage regulators applying magnetic regulation. Saturable-core frequency multiplier apparatus. Flux gates or valves. Saturable-core type servomechanisms. Magnetic amplifiers. Electronics and the saturable-core reactor.

Note: An introductory book in which the subject is treated descriptively and mathematics is largely avoided. Readers need basic knowledge of electrical terminology. Considering the book's level, the bibliography is exceptionally extensive and includes books, papers, and patents.

DUSENBERY, H. SYRIL

Direct current motor manual. New York The Macmillan Company 1950 275 p. illus. 22 cm. $4.50 2118

Contents: Basic principles. Frames and enclosures. Motor bearings. The motor field. The armature. Armature windings. Commutation. Commutator care. Motor brushes. Installing and maintaining brushes. Insulating materials. The series motor. The shunt motor. The compound motor. Selection and application. Testing motors. Motor troubles. Reconnecting direct current motors. Starting the motor. Motor protection. Stopping the motor. Reversing the motor. Basic speed control. The direct current generator. Variable voltage speed control. Regulating exciters. Electronic rectifiers. Electronic speed control. Control maintenance. Resistors and rheostats. Mechanical drives. Code requirements. Appendix of useful information. Glossary. Index.

Note: A practical book for persons who are active in the installation, operation, and maintenance of modern direct current motors and associated control equipment. It contains, in addition to the material on motors, a good descriptive treatment of new electronic devices for rectification and speed control which have recently increased interest in direct current motors. Very little mathematics is employed. Tables of the physical properties of materials used in motors should be convenient for electricians and others employed in the practical end of the field.

FITZGERALD ARTHUR EUGENE AND CHARLES KINGSLEY JR.

Electric machinery an integrated treatment of a-c and d-c machines. New York McGraw Hill Book Company Inc., 1952 492 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E. Terman, consulting editor) $8.50 2119

Contents. Physical aspects of electromechanical energy conversion. Electromechanical-energy-conversion principles. Basic concepts of machine performance. Introduction to machine analysis. D-c machines—analysis of performance. D-c machines—application aspects. Synchronous machines—analysis of performance—effects of saturation and salient poles. Polyphase induction machines. Fractional-horsepower a-c motors. Control type generators and self-synchronous machines. Electrical transients in machines and systems of machines. Dynamics of electromechanically coupled systems. Appendix: Basic theory of transformers. Table of constants and conversion factors. Index.

Note: A new textbook designed for use by advanced undergraduate students of electrical engineering. In it is presented an analytical study of rotating machines based on the concept of interaction between the magnetic fields of stator and rotor. Steady-state conditions in the machine and its system are assumed in most of the book, but in the final chapter the reader is introduced to electromechanical transients such as arise in the starting of motors, the oscillations of synchronous machines, etc. The authors are members of the faculty of the Massachusetts Institute of Technology.

GRAHAM, KENNARD COLVILLE

Small commutator motors. Chicago American Technical Society 1952 283 p. illus. 22 cm. $4 90. 2120

Contents: General theory of repulsion—motor operation. Armature windings. Winding hand-wound armatures. Repairing motors with form wound coils. Types of repulsion motors. Accessory features of repulsion motor construction. Theory of direct-current motors. Winding direct-current motors. Assembly—trouble shooting direct-current motors. Index.

Note: A new book for practical students studying in organized vocational courses or at home. It covers both a-c and d-c motors with commutators. The basic theory of such motors is explained simply but the main emphasis is on armature winding and other repair operations. The text is clearly written in simple language and is supplemented by a generous number of illustrations. Mathematics is almost wholly absent.

HARWOOD PAISLEY B

Control of electric motors. Third edition. New York John Wiley & Sons Inc. 1952 538 p. illus. 24 cm. $8.00. 2121

Contents. Introduction. Wiring diagrams. Construction of control apparatus. Pilot devices and accessories. Direct-current contactors and relays. Automatic accelerating methods for direct-current motors. The direct-current shunt motor. Shunt field relays and rheostats. Adjustable-voltage controllers. Automatic regulating systems. The direct-current series motor. Two-motor drives. Dynamic lowering hoist controllers. Alternating-current contactors and relays. Automatic accelerating methods for alternating-current motors. The polyphase squirrel-cage motor. The wound-rotor motor. Single-phase motors. The synchronous motor. Magnetically operated brakes. Resistor design. Tables. Index.

Note: (1790) A standard work which is used both as a text in engineering colleges and as a practical survey for engineers and other technical personnel in industry whose work requires a knowledge of controlling devices for motors. Information is included on the design, construction, and applications of controllers and on controlling elements and systems for various types of motors. The second edition was published in 1944. Many changes were made in both the text and illustrations and much new matter was added in preparing this edition. The author is Vice-president in charge of engineering of Cutler-Hammer, Inc.

JAMES HENRY DUVALL AND LEWIS EDWIN MARKLE

Controllers for electric motors a treatise on the modern motor controller with typical applications to the industries. Second edition. New York McGraw Hill Book Company Inc. 1952 426 p. illus. 24 cm. $7 00. 2122

Contents. Function and types of control. How to read controller diagrams. How to make controller diagrams. Magnetic contactors. Starting characteristics of motors with different methods of control. Methods of accelerating motors. Methods of speed control. Control for cranes, hoists, and other special applications. Mechanical and dynamic braking. Regeneration. Voltage control for direct-current motors. Amplifiers used for motor control. Magnetic amplifiers. Series-parallel control and the electro pneumatic contactor. Adjustable-speed alternating-current motors of the wound-rotor type. Resistors. Manual controllers. Direct-current magnetic-contactor controllers. Alternating-current controllers. Synchronous-motor control. Electron-tube control. Remote and supervisory control. Protective devices. National codes, installation, and maintenance. Past and future control developments. Index.

Note: (1811°) A standard book for electrical engineers and other technically trained persons who select or maintain motor control equipment. It does not cover the analysis of control problems but is, instead, devoted to descriptions of types of controllers, their characteristics and applications. Although numerous examples of current U.S.A. makes of controllers are shown in the illustrations, the authors have not described the details of specific makes. For this edition the chapter on the control of crane and hoist motors was rewritten, and numerous additions covering recent developments in motor control were added in other chapters.

KRON GABRIEL

Equivalent circuits of electric machinery New York John Wiley & Sons Inc. 1951 278 p. illus. 24 cm. (General Electric series) $10.00 2123

Contents: Prologue—The philosophy of equivalent circuits. The physical model. The primitive machine at standstill. The primitive machine at constant speed. The transformation of reference frames. Induction machines. Synchronous machines. Commutator machines. Stationary networks. Interconnected machines. Space harmonics. Time

harmonics. Sudden short circuits and load variations. Epilogue—The electrodynamics of equivalent circuits. Appendixes: Reestablishment of the transient dynamical equations from the equivalent circuits. Design constants of the shaded-pole motor. Visualizable and nonvisualizable physical vectors.

Note. A book of interest to designers of electric machines and to other engineers who must have a fundamental knowledge of them. In it the electrical properties of rotating electric machines and groups of machines are reduced to stationary electric circuit models, which the author terms equivalent circuits. How the stationary models are constructed is shown step by step for most types of machines. Uncommon machines such as the Scherbius are covered, as well as more common types. The book is both original and important. The author is associated with the General Electric Company and the book appears in the "General Electric series."

KUHLMANN JOHN HENRY HELWIG

Design of electrical apparatus by John H. Kuhlmann assisted in the preparation of the third edition by N F Tsang New York John Wiley & Sons Inc. 1950 512 p. illus. 24 cm. $7.00 2124

Contents: Section I. Direct current machines. Construction. Voltage formula and output equation. Armature windings and insulation. The magnetic circuit. Armature reaction and field winding design. Commutation and commutating pole design. Losses, efficiency and temperature rise. Sample design. Section II. Synchronous machines. Construction. Voltage formula and output equation. Armature winding and insulation. Magnetic circuit. Armature reactions in synchronous machines. Losses, efficiency and temperature rise. Sample design of synchronous motor. Section III. Induction motors: Construction. The stator. The rotor. Motor characteristics. Fractional-horsepower single-phase motor design. Section IV. Transformers: Construction. Core and windings. Operating characteristics. Sample transformer designs. Appendix. List of symbols. Index.

Note. (1793) A standard book of practical design methods. It is used primarily as a textbook in engineering colleges, but it is suitable also as a guide for graduate engineers who are preparing to enter the field of design. Basic theory, practical procedures, and design limits are all covered. The exposition includes numerous sample calculations. The second edition was published in 1940. Changes made in preparing this edition include an extensive revision of the section on induction motors and numerous but less extensive changes in other sections.

LIWSCHITZ GARIK MICHAEL

D-c and a-c machines based on fundamental laws. By Michael Liwschitz-Garik, assisted by Robert T Weil, Jr New York D Van Nostrand Company 1952 508 p. illus. 24 cm. $5.00 2125

Contents (abridged): The fundamental laws. D-c armature windings. The magnetic circuit. The d-c generator. The d-c motor. Some special d-c machines. Transformer construction. The phasor diagram and equivalent circuit of the transformer under load. Determination of parameters from no-load and short-circuit test. Parallel operation of transformers. A-c armature windings. The polyphase induction motor as a transformer. Circle diagram of the polyphase induction motor. Determination of parameters from no-load and locked-rotor test. Starting and speed control of the polyphase induction motor. Some special induction machines. The single-phase induction motor. Starting the single-phase motor. Equivalent circuit of the synchronous machine. Small synchronous motors. Hunting of synchronous machine. The synchronous converter. The d-c armature in an alternating magnetic field. The single-phase series commutator motor. The repulsion motor. The 3-phase shunt commutator motor (The Schrage motor). Appendices. List of symbols. Conversion table. References. Answers to problems. Index.

Note. A textbook for engineering courses. The importance of four fundamental laws, Faraday's law of induction; Kirchhoff's law of the electric circuit; circuital law of the magnetic field (Ampère's law); and law of force on a conductor in a magnetic field (Biot-Savart's law) is constantly emphasized. The author's method of instruction is to guide the student in the selection of those laws that apply to a particular problem, to derive the fundamental equations for the machine in question, and then to demonstrate the derivation of the machine characteristics from these equations. The book is written in a direct, easily-read style, and the discussions are adequately detailed. The author is a member of the faculty of the Polytechnic Institute of Brooklyn.

LIWSCHITZ GARIK, MICHAEL

Winding alternating-current machines a book for winders, repairmen, and designers of electric machines. By Michael Liwschitz Garik assisted by Celso Gentilini. New York D Van Nostrand Company Inc., 1950. 766 p. illus. 24 cm. $8.50 2126

Contents: Classification of a-c windings and some fundamental conceptions. Types and insulation of polyphase windings. Integral-slot lap windings. Balanced fractional-slot lap windings. Unbalanced fractional-slot lap windings. Integral-slot and (integral + 1/2)-slot 3-phase wave windings. Balanced fractional-slot wave windings. Unbalanced fractional-slot wave windings. Two and more speed polyphase windings. Reconnecting an old polyphase winding for new conditions and rewinding an old core. Single-phase windings and diagrams. Electrical faults in a-c windings. Appendixes: Balanced fractional-slot lap windings laid out with respect to the main wave. Balanced fractional-slot lap windings laid out with respect to harmonics (windings with cyclic coil shift and doubly chorded windings). Balanced fractional-slot wave windings with single and double chording. Unbalanced, fractional-slot lap and wave windings. Distribution and pitch factors of integral and fractional-slot windings. List of symbols. Bibliography. Index of diagrams. Index of tables. General index.

Note. A practical instruction and reference book. It includes numerous varieties of lap and wave windings not covered in the older books on winding. A considerable part of the space is devoted to reproductions of diagrams and other illustrative material. Extensive tables show all possible series and parallel connections for pole numbers between two and thirty. The main part is addressed to winders and electricians and includes no mathematical theory. The appendixes contain mathematical analyses of the various types of windings and are of interest to designers of a-c machines.

McDOUGAL, WYNNE LUTHER, AND K. C. GRAHAM

Small non-commutator motors. Chicago American Technical Society, 1951 265 p. illus. 22 cm. $4.25 2127

Contents: Theory of motor operation. The use of inductance in motor operation. Operations preliminary to rewinding stator. Rewinding split-phase motor. Rewinding with formed coils. The capacitor motor. Essential features of motor construction. Special types of split-phase motors. Deviations from split-phase type. Testing motors and locating trouble. Index.

Note. A simplified treatise on alternating current motors that have no commutator and that are less than 1 horsepower in size. Such motors range from the simple low-power ones used in driving household electric clocks to capacitors and shaded-pole motors used in such applications as office machinery and household refrigerators. The basic principles and the elements of such motors are described as fully as possible without the use of mathematics. The book is designed for use in vocational courses in high schools and trade schools and for home study by apprentice electricians and others with practical interest in the subject.

MUELLER GEORGE VERNON

Alternating-current machines. New York McGraw Hill Book Company Inc., 1952 502 p. illus 24 cm. $7.50 2128

Contents. Construction details and no-load relations in transformers. Relations in a loaded transformer. Parallel operation of transformers. Special types of transformers. Transformer connections in polyphase systems. Polyphase induction motors. Speed control of induction motors. Further induction machine topics. Synchronous generators. Synchronous motors. Single-phase motors. Synchronous converters. Rectifiers. Appendix. Index.

Note: The author of this text is Professor of Electrical Engineering in Purdue University and the book is intended for use in introductory courses in a-c machines offered to electrical engineering students who are majoring in machines and power circuits. There is some emphasis on those aspects of the subject which are useful in design. The illustrations include a number of oscillograms of the wave forms of currents in a-c machines.

PESTARINI JOSEPH MAXIMUS

Metadyne statics. New York Published jointly by The Technology Press of Massa-

chusetts Institute of Technology and John Wiley & Sons, Inc., 1952 415 p. illus. 24 cm. $9.50 2129

Contents: Part I, General rules valid for all metadynes Introduction. Commutated currents. Electromotive force induced in an isotropic metadyne. Main characteristics of an isotropic metadyne—the case of absolutely constant speed. Principal characteristics of an isotropic metadyne—the case of approximately constant speed due to a regulating device. The metadyne with substantially variable speed. Metadynes complete with their external connections. Quasi-static characteristics and static stability. Consideration of the anisotropic metadyne and of the saturated iron. On commutation. Part II, Special cases of metadynes: Introduction. The cross transformer metadyne at substantially constant speed. Some transformer metadynes of degree m = 4. Some generator metadynes of degree m = 4. Some motor metadynes of degree m = 4. Some applications using metadynes previously described. Special metadynes of degree m = 4. Some applications of the metadynes already described. Hyperstatic metadynes—the "eight" transformer metadyne. Some metadynes of degree different from 4; m ≠ 4. The remotor transformer metadyne. Pliodynes. Glossary of nomenclature. Index.

Note: The author of this book discovered the class of direct current electric machines now known as metadynes in the course of making an analytical study of commutation in direct-current machines. Since his original discovery numerous patents have been issued to him and a number of metadynes have been designed and built for specific applications. However the potentialities of the metadynes are still largely unexplored. The greater part of this book is devoted to the theory and analysis of the steady-state characteristic of metadynes. Included also are descriptions and analyses of a variety of metadyne installations. At present the author is lecturer at the Massachusetts Institute of Technology and Columbia University

ROBERTSON BURTIS LOWELL AND LEONARD J BLACK

Electric circuits and machines. New York D Van Nostrand Company Inc., 1949 434 p. illus. 24 cm. $5 75 2130

Contents: Electrical power. Generation of electrical power Circuit constants. Single-phase, alternating-current circuits. The single-phase transformer. Polyphase systems. Transformer connections. Electrical machines. Machine windings. Synchronous machines. Polyphase induction motors. Single-phase motors. Direct-current machines. Some basic aspects of electronics. Vacuum tubes and their characteristics. Amplifiers and oscillators. Gas-filled tubes and power supplies. Electrical instruments. Appendixes. Index.

Note: A textbook specifically designed for college students of mechanical rather than electrical engineering. The principles and chief types of circuits and machines are covered with the main emphasis on single phase alternating current machines. A special feature is an unusually large selection of problems for the student to solve. The book was developed over a period of many years at the University of California.

SISKIND CHARLES SEYMOUR

Alternating-current armature windings theory practice, and design. New York Mc Graw Hill Book Company Inc., 1951 236 p. illus. 24 cm. $5.00 2131

Contents: General comparisons between d-c and a-c armature windings Elementary principles of a-c machines The single phase concentric (spiral) winding Windings for repulsion-type motors. Windings for split-phase motors. Two-speed windings for split-phase motors. Winding types and coils for polyphase machines. Concentric chain windings. Wave windings. Lap windings. Winding connections for different voltages. Fractional-pitch lap windings Fractional-slot lap windings Windings for multispeed motors. Equalizer connections in polyphase windings. Winding changes and calculations in polyphase induction motors. Winding troubles: causes, symptoms, locations, remedies. Appendixes. Index.

Note: A simplified, practical introduction. The basic principles of alternating-current machines are discussed briefly; then the main types of windings are described. There is somewhat more attention to the principles and characteristics of the various windings than there is to winding and rewinding techniques. Nevertheless, the book is designed for students and electricians who are preparing to do practical winding. It is a companion volume to the author's *Direct-current armature winding* (below)

SISKIND, CHARLES SEYMOUR

Direct-current armature windings theory and practice. New York McGraw-Hill Book Company Inc. 1949 149 p. illus. 26 cm. $4.00 2132

Contents (abridged) The generator—principle of construction. Types of winding. Back pitch for lap windings. Progressive and retrogressive windings. Parallel paths in lap windings. Armatures with more bars than slots. Wave windings. Simplex-wave-winding problems. Multielement wave coils for wave windings. Dummy elements in wave windings. Parallel paths in simplex-wave windings. Multiplex-wave windings. Circulating currents in lap windings. *Frog-leg windings.* Voltage, speed and armature-winding calculations. Winding troubles—causes, symptoms, locations, remedies. Formulas. Wire tables. Index.

Note: In this excellent introductory presentation the author has simplified the problem of understanding direct-current windings by pointing out that all of them can be analyzed into two fundamental types: the lap and the wave. Both the exposition and the drawings are based on this analysis. Although written from a practical standpoint, the book is not a complete manual of d-c armature winding practices. Apparently the author's chief purpose was to make certain that his readers understand the principles of d-c windings rather than to give them details of shop operations. No discussion of rewinding techniques is included.

TIMBIE, WILLIAM HENRY, AND FRANK G WILLSON

Industrial electricity Volume II Alternating-current practice. New York John Wiley & Sons, Inc., 1949 781 p. illus. 22 cm. $5 96 2133

Contents: Alternating currents; *fundamental ideas.* The use of vectors in computing a-c currents and pressures—series, parallel and polyphase circuits. Power, power factor single-phase circuits. Circuits containing reactance and impedance. Power in polyphase circuits. The alternator construction and armature windings. The alternator performance and operation. The transformer. The polyphase induction motor. Single-phase induction motors—commutator type motors. The synchronous motor. Short transmission and distributing lines Long transmission lines—capacitive reactance. Converters and rectifiers. Appendixes. Index.

Note: (1806) The authors of this elementary text have achieved a suitable balance between the basic principles of alternating-currents and their application to electrical machinery Each chapter includes a detailed discussion of how and why a particular type of machine performs, its characteristics and capabilities, description and diagrams of the circuits involved, numerous review problems, and finally a useful summary of the preceding material. The book is a companion volume to the senior author's *Industrial electricity; direct current practice,* and the treatment assumes a sound knowledge of the fundamental principles of electricity as set forth in the earlier volume.

ELECTRIC WIRING

ABBOTT ARTHUR LAURIE

National electrical code handbook. Seventh edition, based on the 1951 edition of the National Electrical Code. New York McGraw-Hill Book Company Inc., 1952 652 p illus. 20 cm. $6.00 2134

Contents (abridged) Part I, Definitions; general provisions. Part II, Approved types of wiring Part III, Installations of materials and apparatus: Conductors Open wiring on insulators. Cable assemblies. Raceways. Outlet, switch, and junction boxes and fittings. Switches, panelboards, switchboards. Lampholders, lighting fixtures. Electrical appliances. Motors. Capacitors. Part IV General requirements for wiring installations: Services. Grounding. Overcurrent protection. Design of wiring installations. Part V Special cases: Outside wiring. Hazardous locations. Garages. Theaters. Motion-picture studios. Elevators. Signs and outline lighting. Circuits and equipment operating at more than 600 volts between conductors. Radio equipment. X-ray equipment. Part VI, Construction of materials, devices, fittings and equipment. Tables. Cross index. Subject index.

Note: (1334*) In this work the National Electrical Code is explained and interpreted for the benefit of architects, engineers, electricians, and others who will make practical use of the knowledge. Where rearrangement or rewording was necessary in order to clarify

code sections, the author has rearranged and reworded; but in most instances he has quoted code sections verbatim and has followed them with discussion and comment. The work has been a standard reference book since the appearance of the first edition in 1932. New editions follow closely upon publication of new editions of the National Electrical Code. Each new edition is a revision extensive enough to make the book conform fully to the current code.

RICHTER, HERBERT P

Practical electrical wiring residential farm and industrial. Based on the 1951 National Electrical Code. Fourth edition. New York McGraw Hill Book Company Inc., 1952 602 p illus. 22 cm. $6 75 2135

Contents (abridged) Part 1. Theory and basic principles: Underwriters and codes. Electricity—basic principles and measurements. Basic devices and circuits. Overcurrent devices. Types and sizes of wire. Wire connections and joints. Outlet and switch boxes. Different wiring methods. Branch circuits and service entrance. Adequate wiring. Good lighting. Residential and farm motors. Part 2 Actual wiring—residential and farm: Planning an installation. Installation of service entrance and ground. Installation of specific outlets. Old work. Farm wiring. Isolated and standby power plants. Wiring apartment houses. Code requirements with respect to wire. Part 3 Actual wiring—nonresidential projects: Planning nonresidential installations. Nonresidential lighting. Wiring for motors. Wiring schools and churches. Wiring offices. Wiring stores. Wiring miscellaneous occupancies. Bibliography. Appendix. Index.

Note (3412) A standard practical manual, useful primarily to the working electrician but intelligible also to the home mechanic who wants to learn how a particular operation in wiring should be done. In comparison to the preceding edition published in 1947 it has been rather extensively revised. The changes made necessary by the publication of a new edition of the National Electrical Code have of course been made. However in addition, the author has revised both the text and illustrations of sections unaffected by code revisions.

SEGALL BEN Z

Electrical code diagrams Based on the 1951 edition of the National Electrical Code. New York McGraw Hill Book Company Inc., 1952 2 v illus. 29 cm Each volume, $12.50 2136

Contents Volume I Wiring design and protection. Wiring methods and materials. Index Volume II Equipment for general use. Special occupancies.

Note In this work all of the rules of the National Electrical Code, 1951 which lend themselves to illustration are represented by diagrams. The arrangement within the chapters is numerical, in accordance with the numbered rules in the code; there are always legend and often some discussion for each diagram, but the book must be used with a copy of the Code. It should prove useful to all who are concerned in a practical way with the installation of electrical wiring, including electricians, electrical contractors, and inspectors.

UHL ALBERT AND OTHERS

Interior electric wiring and estimating residential, including farm buildings. By Albert Uhl, Carl H. Dunlap and Frank W Flynn. Fourth edition. Chicago American Technical Society 1951 312 p illus. 22 cm. $3 95 2137

Contents How to read drawings for electrical construction. Electrical fundamentals applying to wiring. How to make electrical connections. Installing service switch and metering equipment. Wiring outlets and wall switches. Installing knob-and-tube wiring. How to do cable wiring. Wiring residences. Conduit wiring materials. Conduit wiring, tools, and methods. Electric ranges and water heaters. Residential furnace controls. Estimating electrical wiring. Electrical power for the farm. Index

Note (3414) A well-established trade school textbook. It is written clearly and is generously illustrated. There are several features such as questions and detailed answers that suit it to home study. However the book is not a substitute for the more comprehensive works on electric wiring. This edition is a thorough revision with many new illustrations, new review questions, new text in many parts, etc. The chapters on apartment building and factory wiring that appeared in the earlier edition have been dropped and three new chapters have been added. The index is about three times as long.

ELECTRONICS

ADVANCES IN ELECTRONICS. Volume IV Edited by L. Marton. Editorial board T E. Allibone and others. New York Academic Press, Inc., 1952 344 p. illus. 24 cm. $7.80. 2138

Contents: Electron scattering in solids, by H. S. W Massey. The scintillation counter by G. A. Morton. Fluctuation phenomena, by A. van der Ziel. Electronic digital computers, by C. V L. Smith. Modulation of continuous-wave magnetrons, by J. S. Donal, jr. The magnetic airborne detector by W E. Frosen. Multichannel radio telemetering, by M. G. Pawley and W E. Tolles. Author index. Subject index.

Note: The most recent volume in a series organized on a now-familiar pattern. Each of the papers is essentially a resume of the literature pertinent to the topic named in its title. Statements and data are carefully referenced to the source articles. The style is technical and the series is designed as an aid to professional workers in electronics and related fields who wish to keep abreast of progress in areas in which they do not specialize. The papers are well organized for facility in reading and are accompanied by good lists of the related literature.

BLACKBURN, JOHN FRANCIS editor

Components handbook. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company Inc., 1949 626 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Louis N Ridenour editor-in-chief Vol. 17) $8.00. 2139

Contents. Foreword, by L. A. DuBridge. Wires and cables. Fixed composition resistors. Fixed wire-wound and miscellaneous resistors. Iron-core inductors. Piezoelectric devices. Electromagnetic delay lines. Supersonic delay lines. Potentiometers. Special variable condensers. Rotary inductors. Instrument motors and tachometers. Power supplies. Relays and related devices. Receiving tubes. Index.

Note This volume is essentially a compilation of descriptive and tabulated technical data regarding the construction, operation, specifications, and standards of various electrical devices used in radar and related electronic equipment or as adjuncts to such equipment. Like other volumes in the series, it is based largely on work carried out at the M.I.T. Radiation Laboratory during World War II. The book is planned as a reference manual to be used in conjunction with volumes XVIII through XXIII of the above series.

CAGE JOHN M.

Theory and application of industrial electronics. With the assistance of C. J Basbe. New York McGraw Hill Book Company Inc. 1951 290 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $4 75 2140

Contents Polyphase rectifiers. Grid-control circuits for gas tubes. Amplifiers for industrial electronics. Regulators and servomechanisms. Dynamics of closed-loop systems. Electronic control of motors and generators. Basic timing circuits. Ignitrons and thyratrons as line switches. Resistance-welder controls. Induction heating. Dielectric heating. A survey of electronic measurements. Oscillators and pulse techniques. Miscellaneous principles and applications. Appendix. Index

Note In this text for advanced and graduate electrical engineering courses the purpose is to present the basic principles and circuits of electronic devices used in industry. The space is about evenly divided between fundamental theories and their applications to problems in measurement, control, and power conversion. Although ar-

sweep circuits are described and illustrated, no attempt is made to deal with the instruments of specific manufacturers. Review problems and brief lists of references are included in each chapter. The author is Professor of Electrical Engineering in Purdue University

CHANCE, BRITTON, AND OTHERS, editors
Electronic time measurements. Edited by Britton Chance, Robert I. Hulsizer Edward F MacNichol, Jr., and Frederick C. Williams. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company, Inc., 1949 538 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N Ridenour editor in-chief. Vol. 20) $7.50. 2141

Contents: Introduction. Radio distance and speed measurements. Techniques of pulse time measurements. Generation of fixed indices. Generation of movable indices—single-scale circuits. Generation of movable indices—circuits. Manual measurements. Techniques of automatic time measurement. Systems for automatic time and position measurement. Special data-transmission systems. Relay radar systems. Delay and cancellation of recurrent wave trains. Glossary. Index.

Note. In this volume the problems and techniques of measuring precisely very small intervals of time are considered. Methods invented before the development of radar are mentioned, but mainly the book deals with the special circuits and devices that were developed in the Radiation Laboratory and elsewhere during the intensive development of radar before and during World War II. However, the emphasis is not on military applications but on methods that are more generally useful.

CHANCE, BRITTON, AND OTHERS editors
Waveforms edited by Britton Chance, Vernon Hughes, Edward F MacNichol David Sayre, and Frederick C. Williams. Office of Scientific Research and Development, National Defense Research Committee. New York. McGraw Hill Book Company Inc., 1949 785 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series Louis N Ridenour editor-in-chief. Vol. 19) $10.00 2142

Contents: Introduction. Operations on waveforms with linear circuit elements. Operations with nonlinear circuit elements. Sinusoidal waveform generators. Generation of fast waveforms. Blocking oscillators and delay-line pulse generators. Generation of triangular waveforms. Generation of special waveforms. Amplitude, selection, comparison and discrimination. Time selection. Electrical amplitude modulation. Electromechanical modulators. Time modulation. Amplitude and time demodulation. Sinusoidal frequency multipliers and dividers. Pulse-recurrence-frequency division. Counting. Mathematical operations on waveforms. Oscilloscopic techniques in waveform measurement. Storage tubes. Electrical delay lines. Supersonic delay devices. Bibliography. Appendixes. Glossary. Index.

Note: Another in the series of books based largely on work done at M.I.T. Radiation Laboratory during World War II. The volume serves as "comprehensive survey of basic circuit techniques used in the generation and manipulation of voltages and currents by linear and nonlinear circuit elements. It is intended to provide the designer of circuits and electronic devices with knowledge of those techniques which have proved successful in the development of radar timing, and with practical description of the characteristics, design problems, and applications of wide variety of circuits. The circuits are grouped according to function rather than type.

COCKRELL, WILLIAM D
Industrial electronic control a guide to the understanding of electronic control circuits for industrial uses. Second edition. New York McGraw Hill Book Company Inc., 1950 385 p. illus. 21 cm. $5.50. 2143

Contents (abridged): Section I, Electron tubes: The vacuum rectifier. Gas-filled rectifiers. Special tube types. The mechanical construction of tubes. Section II, Circuit components: Instruments and meters. Transformers and miscellaneous components. Combinations of component elements. Section III, Basic electronic circuits: Rectifier circuits and filters. Timing and wave-shaping circuits. A-c phase-shift and switching circuits. Oscillator circuits. Section IV, Closed-cycle control systems: Regulating or closed-cycle control systems. Bode diagrams and their use in system stabilization. Section Industrial electronic circuits: Direct-current photoelectric circuits and motor control. Alternating-current relay and power circuits. Resistance-welder controls and welder current regulating. Appendix. Index.

Note: (1st ed.) A useful manual for plant engineers, electricians, maintenance men, and others whose work involves the operation or repair of electronically controlled machinery and systems. Although intended for men with technical backgrounds, the treatment is largely nonmathematical. Basic elements and circuits are considered from the standpoint of characteristics and uses. Typical wiring diagrams are included. Important additions have been made in this revision, including the section on closed-cycle control systems.

DOW, WILLIAM GOULD
Fundamentals of engineering electronics. Second edition New York John Wiley & Sons Inc., 1952 627 p. illus. 23 cm. $8.50 2144

Contents: Potential distribution diagrams. Electron ballistics. Cathode-ray devices. Electrostatic fields in space-charge control tubes. Space-charge control of current. Triodes, tetrodes, pentodes. Thermionic cathodes. Electrons in metals and semiconductors. Amplifier circuit principles. Amplifier coupling; oscillators. Introduction to microwave electron tube principles. Random velocities of gas particles. Ionization and excitation of atoms. Photosensitive devices. Current flow in gases. Plasma boundary regions. Arc and glow transient phenomena. Gaseous-conduction rectifying devices. Tables. Bibliography. Index.

Note: (1937) To use the words of the author, this book deals with "the internal functioning of the electron devices that serve as the active elements in electronic circuits." The subject is treated essentially from the standpoint of engineers who are concerned with design of these electronic elements, such as tubes, and it covers not only the main points but also numerous smaller problems such as how to calculate the effect of space-charge-limited current of potential variations along the cathode. Primarily it is text for electrical engineering students, but it is also useful for fundamental information and reference to graduate engineers. This edition incorporates considerable range of material not in the preceding edition, but as the author has deleted material the length of the book is approximately the same. Recent literature has been added to the bibliography.

EASTMAN AUSTIN VITRUVIUS
Fundamentals of vacuum tubes. Third edition. New York McGraw Hill Book Company Inc., 1949 644 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, F E. Terman consulting editor) $7.50. 2145

Contents: Part I, Basic concepts: Electronic emission. Construction of vacuum tubes. High-vacuum tubes. Gas-filled tubes. Photoelectric tubes. Special types of tubes. Part II, Applications and circuits: Rectifiers. The vacuum tube as control device. Audio-frequency amplifiers. Radio-frequency amplifiers. Oscillators. Fourier series analysis of vacuum-tube performance. Modulators. Demodulators. Appendixes. Author index. Subject index.

Note: (1937) An introduction to the basic principles of vacuum tubes used in radio and industry. Applications of such tubes and the circuits in which they are employed are also discussed at some length. The book is intended primarily for senior electrical engineering students, but it is also of value to practicing electrical engineers. Readers are expected to have knowledge of mathematics through elementary calculus. This edition has been revised to include recent developments in the field. The chapter on audio-frequency amplifiers has been largely rewritten, and provides more detailed treatment of video amplifiers and of low- and high-frequency compensation circuits. The discussion of modulation and demodulation has also been expanded to form two chapters.

HILL, WILLIAM RYLAND
Electronics in engineering. New York McGraw-Hill Book Company Inc., 1949 274 p.

24 cm. (McGraw Hill electrical and electronic engineering series, F E. Terman, consulting editor) $4.50 2146

Contents (abridged) Practical emitters and diodes. Single-phase rectifier circuits. Grid-controlled vacuum tubes. Gas-filled tubes. Photosensitive devices. Electronic control circuits. Polyphase rectifiers. Practical amplifier circuits. Feedback. Resonance and tuned amplifiers. Oscillators. Amplitude modulation and demodulation. Transducers. The vacuum tube voltmeter Appendix The R-C discharge. Index.

Note: A relatively short introduction to basic electronic principles and devices. It is intended for advanced engineering students who do not intend to specialize in the field but who wish a fundamental understanding of it. Despite the brevity of the book, the discussion of important points is adequate and the exposition is usually illustrated by a worked example. Besides its intended use, the book should be of value to graduate engineers who wish to acquire information about electronics by home study

KNOLL M AND B KAZAN

Storage tubes and their basic principles New York John Wiley & Sons Inc., 1952 143 p. illus. 23 cm. $3.00. 2147

Contents: Equilibrium potentials acquired by an insulating surface under electron bombardment and the action of light. Definitions. Methods of writing and reading. Signal-converter storage tubes (electrical-electrical) Viewing storage tubes (electrical-visual). Computer storage tubes (electrical-electrical) Television-camera storage tubes (visual-electrical) Bibliography Index

Note Electronic storage tubes such as are used in television cameras and electronic computers are covered in this book. The treatment is largely descriptive but on a level which makes the book useful to technically trained persons who have an interest in the subject although not specialists in electronic tubes. Writing methods (charging) and reading methods (discharging) are precisely described in technical terms. The authors next describe the main types of tubes which have been developed to the commercial stage and also some which are under development. The following points are given for each type of tube elements and operating principles, writing and reading principles and characteristics, half-tone characteristics and (in some cases) the method of erasing and other outstanding features. The descriptions are not specifically to tubes manufactured by specific manufacturers. There is an extensive bibliography in which many of the entries have short annotations.

KOHL, WALTER HEINRICH

Materials technology for electron tubes. New York Reinhold Publishing Corporation, 1951 493 p. illus. 24 cm. $12 50 2148

Contents Physics of glass. The annealing of glass. Strain analysis of glass. Glass-to-metal seals. Electrical conduction in glass. Glass in radiation fields. Electrons, atoms, crystals, and solids. Tungsten. Molybdenum. Tantalum. Nickel. Copper Carbon and graphite. Joining metals by soldering and brazing. Ceramics and mica. Ceramic-to-metal seals. The phase rule High-vacuum techniques. Thermionic emission. Author index. Subject index.

Note: A systematic survey of the physical properties of the materials used in electron tubes. Considerable information is included on the manipulation and fabrication of these materials, but the book is not a treatise on manufacturing techniques. The treatment is technical, and the work is intended for scientists doing research in connection with the design and manufacture of electron tubes as well as for physicists interested in tube phenomena. The text is well documented with literature references and is supplemented by many tables of chemical, physical, and mechanical data.

KRAMER, ANDREW WILLIAM

Industrial electronics elementary principles & applications. New York Pitman Publishing Corporation 1949 311 p illus. 24 cm. $6.00. 2149

Contents: Electron behavior. Fundamental principles of the electron tube. The simplest thermionic tube—the diode. The triode. Triode characteristics and operation. Electronic generation of electrical oscillations. Multielement tubes. Effect of gas in tubes. Types and characteristics of gas-filled tubes. Mercury-pool tubes. Photoelectric tubes and cells. Cold-cathode tubes. Special-purpose tubes. What tubes can do. Electronic control and regulation. Application of electron-tube rectifiers. Electronics in instrumentation and measurement. Industrial applications of electronic control. Applications of electronic regulation. Electron tubes in heat production. Electron tubes in light production. Miscellaneous electronic applications. Index.

Note: This book provides nonmathematical explanations of the fundamental principles of electronics and clear descriptions of typical industrial applications of electron tubes and related devices. It is especially suited to the needs of workers who come in contact with industrial applications of electronics in the course of their work and desire to acquire an understanding of them by means of home study. Although elementary and intended for persons who probably will not undertake formal study of the subject, the writing is factual and the author has not gone out of his way to simplify terminology

MARKUS JOHN AND VIN ZELUFF

Electronics for communication engineers. New York McGraw Hill Book Company Inc. 1952 610 p. illus. 28 cm. $10.00. 2150

Contents (abridged) Amplifiers. Antennas. Audio. Cathode-ray tubes. Components. Electronic music. Filters. Measurements. Microwaves. Oscillators. Power supplies. Propagation. Pulses. Receivers. Transmission lines. Transmitters. Index.

Note. A collection of 1[illegible] outstanding articles which appeared in the periodical *Electronics* during the period April, 1940 to November, 1951. The articles are grouped under the headings given above, and the general index to the volume covers all of them. In some instances the original text has been abridged, but usually the full text and all of the illustrations are reprinted. The date of publication of the original article is always given. The book is a useful compilation of reference material for engineers in the electronics and communications fields.

MILLMAN JACOB AND SAMUEL SEELY

Electronics. Second edition. New York. McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series F E. Terman consulting editor) $7 50. 2151

Contents Introduction. Motion of charged particles in electric and magnetic fields. Applications of the motion of particles in applied fields. Electronic phenomena in metals. Statistical electron theory of metals. Characteristics of thermionic cathodes. Diode characteristics. The kinetic theory of gases. Fundamental processes in gases. Electrical discharges in gases. Commercial gas tubes. Rectifiers. Filters for rectifiers. Polyphase rectifiers. Photoelectricity and photoelectric cells. Triode characteristics. Triodes as circuit elements. Multielectrode tubes. Appendixes. Index.

Note (721) A well-established textbook in which adequate attention is paid both to theory and applications of electronics. It is suitable for engineering students who are preparing for careers in communications engineering, industrial electronics, and electronic equipment design. Although the present edition is 1[illegible] pages shorter than the first edition, the book has been well revised and considerable amount of new matter added. The shortening has been accomplished largely by the elimination of two chapters and by resetting the type so that there are three more lines to the page.

PIERCE JOHN ROBINSON

Theory and design of electron beams. New York D Van Nostrand Company Inc. 1949 197 p. illus. 24 cm. (The Bell Telephone Laboratories series) $4 00. 2152

Contents. Properties of electric and magnetic fields. Forces and equations of motion. Simple electron motions. Some general equations. Some typical special problems. The paraxial ray equation. Magnetic and electric lenses—analytical and numerical solutions. The effect of thermal velocities. Space charge in electron beams. Electron guns. About designing electron beam devices. Appendixes Vector relations. Table of physical constants. Index.

Note. A text and reference book in which is presented theoretical material necessary for an understanding of electron flow and electron focusing in devices other than electron microscopes and image tubes, that is electron flow and electron focusing in amplifier and oscillator tubes and especially in microwave tubes. Although the book is not called a book on electron optics, much of the elementary material of such books is included, with more material and more emphasis on space charge and thermal velocities than is usual in books on electron optics. A selected bibliography is given as part of the preface, with occasional other references appearing in footnotes. A

feature of the book is the inclusion of a set of problems, included not only to suit the needs of those who will use the work as a textbook but also because they provide an extension of the text by pointing out important material which the reader can work out himself with the help of the book.

PIERCE, JOHN ROBINSON

Traveling wave tubes. New York D Van Nostrand Company, Inc., 1950 260 p illus. 23 cm. (Bell Telephone Laboratories series) $4.50. 2153

Contents (abridged) Simple theory of traveling wave tube gain. The helix. Filter-type circuits. General circuit considerations. The circuit described in terms of normal modes. Equations for traveling-wave tube. The nature of the waves. Discontinuities. Noise figure. Backward waves. Power output. Transverse motion of electrons. Field solutions. Magnetron amplifier. Double-stream amplifiers. Appendixes: Propagation of a helically conducting sheet. Stored energy of circuit structures. Evaluation of space-charge parameter Q. Diode equations of Llewellyn and Peterson. Evaluation of impedance and Q for thin and solid beams. How to calculate the gain of a traveling-wave tube. Bibliography Index.

Note. The traveling wave tube has several advantages over other types of electronic tubes, but the chief one is a very wide band width. This first book on the subject was written by a member of the technical staff of the Bell Telephone Laboratories, and it is addressed to graduate engineers in the communications field. It provides a detailed treatment of the theory of traveling-wave amplifiers and some indication of their potential uses. Magnetrons and double-stream amplifiers, viewed as related devices, are discussed more briefly. Apparently the bibliography lists all of the articles that had appeared up to August, 1949

RIDER, JOHN FRANCIS

Vacuum-tube voltmeters. Second edition. Revised by John F Rider and Alfred W Barber New York John F Rider Publisher Inc., 1951 422 p. 21 cm. $4.50. 2154

Contents: Fundamentals of vacuum-tube voltmeters. Diode vacuum-tube voltmeters. Triode vacuum-tube voltmeters. Rectifier-amplifier vacuum-tube voltmeters. Tuned vacuum-tube voltmeters. Amplifier-rectifier vacuum-tube voltmeters. Slide-back vacuum-tube voltmeters. Vacuum-tube voltmeters for D-C voltage, current, and resistance measurements. Probes for RF and DC. Design and construction of vacuum-tube voltmeters. Calibration and testing of vacuum-tube voltmeters. Applications of vacuum-tube voltmeters. Commercial vacuum-tube voltmeters. Maintenance and repair of vacuum-tube voltmeters. Bibliography Index.

Note: The present revision of this useful manual, like its predecessor, is intended primarily for radio engineers and radio servicemen. Theoretical considerations have been kept to a minimum, and emphasis is placed on the practical aspects of V-T voltmeter design, construction, operation, and use. In this edition, which has been expanded by more than 100 pages over the first edition (1941) the operating characteristics of new types of V-T voltmeters are described, and the circuits and specifications of most commercial meters are now included. A chapter on maintenance and repair has been added, and the extensive bibliography has been brought up to date.

RIDER, JOHN FRANCIS AND SEYMOUR D USLAN

Encyclopedia on cathode-ray oscilloscopes and their uses. New York John F Rider Publisher Inc. 1950 992 p. illus. 29 cm. $9.00 2155

Contents: Introduction. Principles of electrostatic deflection and focusing. Principles of electromagnetic deflection and focusing. Mechanical characteristics. The electron gun. Deflection systems in cathode-ray tubes. Screens. Spot displacement. Linear time bases (sweep circuits). The basic oscilloscope and its modifications. *Synchronization. Phase and frequency measurements.* Nonlinear time bases. Auxiliary equipment. Testing audio-frequency circuits. Visual alignment of A-M, F-M, and television receivers. Waveform observation in television receivers. Transmitter tests. Electrical measurements, scientific and engineering applications. Complex waveform patterns. Special purpose cathode-ray tubes. Commercial oscilloscopes and related equipment. Appendixes: Characteristics of cathode-ray tubes. RMA cathode-ray-tube basing. Photography Bibliography Index.

Note: A successor to Rider's *The cathode-ray tube at work* first published in 1935. It contains approximately six times as much material as the earlier work. It is designed primarily for users of cathode-ray oscilloscopes, particularly radio and television servicemen; however, it contains a good deal of material which is basic and not directly applicable to them. The chapter on commercial oscilloscopes gives the wiring diagrams and other information for most if not all of the American instruments recently or currently manufactured. The bibliography is extensive.

RUITER JACOB H. JR.

Modern oscilloscopes and their uses. New York Murray Hill Books, Inc. 1949 326 p. illus. 24 cm. $6.00. 2156

Contents: Introduction. History of the oscillograph. Brief history of development of the cathode-ray tube. Fundamental principles of cathode-ray tube operation. Details of the modern cathode-ray tube. The general purpose oscilloscope. Power-supply circuits. Amplifiers, attenuators, and positioning circuits. Time base circuits. Operation of the oscilloscope. Interpretation of basic patterns. Auxiliary equipment. *Typical applications in the electronics industry. Servicing* a-m radio receivers. Servicing f-m radio receivers. Servicing television receivers. Use at the radio transmitter. Using the oscilloscope in teaching. Additional industrial applications of the oscilloscope. Photographing cathode-ray patterns. Glossary Index.

Note: This volume, written for radio repairmen, electrical engineers, students, and others whose work involves the use of oscilloscopes, provides a clear and practical account of the construction, operation, and industrial uses of oscilloscopes. Because of the importance of these instruments in the field of radio, considerable space is devoted to the use of oscilloscopes in servicing radio and television receivers. The book requires a background knowledge of electricity and general physics. It is intended for users of oscilloscopes rather than specialists in the field. The author is associated with the Allen B. DuMont Laboratories, Inc.

RYDER, JOHN DOUGLAS

Electronic engineering principles. Second edition. New York Prentice-Hall, Inc. 1952 505 p. illus. 22 cm. $9.00. 2157

Contents: The fundamental particles of electronics. The movement of charged particles in fields. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. Vacuum diode rectifiers. The vacuum triode. Multi-element tubes. Small-signal amplifiers, feedback. Large-signal amplifiers—class A and B. Gaseous conduction. Gas diodes. Gaseous control tubes and circuits. Photoelectric cells. Solid-state electronics. Appendix: Selected vacuum tube characteristic curves and data. Index.

Note: An engineering college textbook in which electronics is treated as an engineering specialty in its own right rather than as a subdivision of communications engineering or radio. In other words, the primary emphasis is on the electron and on the forms and characteristics of electron tubes rather than on the devices in which they are employed. Nevertheless, there is a good deal of discussion of basic circuits in which electron tubes are used. The first edition was published in 1947. For this edition the work was substantially revised and augmented. Changes were made in the text, illustrations, and bibliographies, and the final chapter was added so as to incorporate the advances represented by the development of the transistor.

RYDER, JOHN DOUGLAS

Electronic fundamentals and applications. New York Prentice-Hall, Inc., 1950 806 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W L. Everitt, editor) $10.00 2158

Contents (abridged) Fundamental particles. Electron ballistics. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. The vacuum triode. Small-signal amplifier circuits. The audio-frequency amplifier. Vacuum-tube oscillators. Modulation systems. Demodulation. Wave-shaping circuits. Gaseous conduction. Gas diodes. Gas control tubes and circuits. Photoelectric cells. Solid-state electronics. Appendixes. Index.

Note: (1947?) A substantial textbook for upperclass students of physics or electrical engineering. It is based on the author's *Electronic engineering principles* (1947), but much new material has been added. Basic physical principles, tube characteristics, and

fundamental circuits are now all covered. The author is Head of the Department of Electrical Engineering in the University of Illinois.

SEELY, SAMUEL

Electron-tube circuits. New York McGraw-Hill Book Company Inc., 1950 529 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series, F E Terman consulting editor) $6.50. 2159

Contents (abridged) Vacuum tubes as circuit elements. Basic amplifier principles. Untuned voltage amplifiers. Special amplifier circuits. Electronic computing circuits. Untuned power amplifiers. Tuned voltage amplifiers. Tuned power amplifiers. Oscillators. Rectifiers. Amplitude modulation. Demodulation. Frequency modulation and detection. Relaxation oscillators. Gas tly biased relaxation circuits. Sweep generators. Electronic instruments. Appendices: Millman theorem. Plate characteristics of receiving type tubes. Characteristics of transmitting tubes. Table of Bessel functions of the first kind. Index.

Note. Although primarily a textbook for upperclass and graduate students in electronics, this book holds potential interest also for electronic engineers out of college and even for mature amateurs. A wide range of circuits is covered, not only in radio but also in radar television, electronic control, and electronic computers. Special attention is given to the characteristics of circuit elements and circuits so as to prepare the reader for practical design of electronic apparatus. Some material from *Electronics* by J. Millman and the author (New York, 1944) has been incorporated in this work.

SHOCKLEY, WILLIAM

Electrons and holes in semiconductors with applications to transistor electronics. New York D Van Nostrand Company Inc., 1950. 588 p. illus. 24 cm. (Bell Telephone Laboratories series) $9 75 2160

Contents. Part I Introduction to transistor electronics. The bulk properties of semiconductors. The transistor as a circuit element. Quantitative studies of injection of holes and electrons. On the physical theory of transistors. Part II Descriptive theory of semiconductors: Quantum states, energy bands, and Brillouin zones. Velocities and currents for electrons in crystals. Electrons and holes in electric and magnetic fields. Introductory theory of conductivity and Hall effect. Distributions of quantum states in energy. Fermi-Dirac statistics for semiconductors. Mathematical theory of conductivity and Hall effect. Applications to transistor electronics. Part III, Quantum-mechanical foundations. Introduction to part III. Elementary quantum mechanics with circuit theory analogues. Theory of electron and hole velocities, currents and accelerations. Statistical mechanics for semiconductors. The theory of transition probabilities for holes and electrons. Appendices. Name index. Subject index.

Note The development of the transistor and the recognition of its many potential applications in electronic devices have resulted in increased interest in the conduction of electricity by the solid semiconductors. The subject is scientifically interesting not only because of possible practical applications but because of the light the associated phenomena shed upon the nature of solids. In this important work by a member of the technical staff of Bell Telephone Laboratories, Inc. the subject is treated from the standpoint of statistical physics. The concept of the excess electron and its counterpart, the "hole" with a positive charge, is explained in terms of the quantum theory but is nevertheless related to practical work in transistor electronics.

TERMAN FREDERICK EMMONS AND JOSEPH MAYO PETTIT

Electronic measurements Second edition. New York McGraw Hill Book Company, Inc. 1952 707 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E Terman consulting editor) $10 00 2161

Contents Voltage and current. Power. Circuit constants of lumped circuits. Circuit constants in systems involving distributed constants. Measurement of frequency. Waveform, phase and time-interval measurements. Characteristics of triodes, pentodes and similar tubes. Amplifier measurements. Receiver measurements. Antennas. Radio waves. Laboratory oscillators. Generation of special waveforms. Reactance and resistance standards and devices. Attenuators and signal generators. Author index. Subject index.

Note. (1244) The first edition of this book was titled *Measurements in radio engineering* and it was well received as a text for college students of radio engineering and a reference book for radio technicians. In this edition the scope has been extended to include measurements in the higher frequencies used in television, radar, etc., hence the change in title. It now contains about twice as many words and more than twice as many illustrations as it did in the first edition. However, it is still addressed to essentially the same audience; that is, advanced students in engineering courses and graduate engineers who are interested in the principles and techniques of measurements in radio and electronics. The laboratory experiments that were outlined in the appendix of the first edition have been dropped. The literature citations have been much extended and the names of authors of cited papers are now included in a separate index.

YOUNG, MILTON GABRIEL, AND HARRY S. BUECHE

Fundamentals of electronics and control. New York Harper & Brothers 1952 525 p. illus. 25 cm. $6 00. 2162

Contents: Electron theory. Basic circuit components and control. Principles of electron emission. High vacuum (hard) tubes. Tubes utilizing gas (soft tubes). Mercury pool tubes. Amplifiers. Oscillators. Modulation and demodulation. Rectifiers. Appendices. Index.

Note. A textbook for use in engineering college courses. Although introductory it provides an adequate coverage of theory and includes also discussions of standard electronic devices including such recently developed ones as the transistor. Enough information is included on many topics to meet the needs of the nonspecialist engineer at work in industry. For example, the chapter on mercury pool tubes is 33 pages long and includes 11 references to related literature.

ZELUFF, VIN, AND JOHN MARKUS

Electronics manual for radio engineers. New York McGraw Hill Book Company Inc., 1949 879 p. illus. 28 cm. $14.00. 2163

Contents. Antennas. Audio. Circuit theory. Components. Dc amplifiers. Filters. Ionosphere. Measurements. Microwaves. Power supplies. Production. Receivers. Television. Transmission lines. Transmitters. Tubes. Index.

Note (1849*) A collection of 259 articles which appeared in the periodical *Electronics* during the period 1940–1948 and which have been in demand for reference use by men in radio and other communications fields. It is similar in nature to *Electronics for communications engineers* (New York, 1945) and in fact there is a slight amount of duplication. Some editing is apparent, but generally speaking the texts of the articles are unaltered from the periodical form. Citations are given to the original publications. An extensive subject index makes the volume a reference manual of considerable usefulness.

ZWORYKIN, VLADIMIR KOSMA, AND E. G RAMBERG

Photoelectricity and its application. New York John Wiley & Sons, Inc., 1949 494 p. illus. 24 cm. $8.50. 2164

Contents Historical introduction. General theory. Photoemissive surfaces. Materials and apparatus for making photocells. General methods of preparing photocells. The vacuum photocell. The gas-filled phototube. The multiplier phototube. The image tube. Photoconductive cells. Photovoltaic cells. Photocell circuits and amplification. The measurement of small photocurrents. Photoelectric counting devices. Phototubes in sound reproduction. Phototubes in picture transmission. Photosensitive camera tubes in television. Light beam signaling and infrared detection. Miscellaneous applications of photoelectricity. Photocells in the future. Appendix. Author index. Subject index.

Note (717) A comprehensive but largely descriptive survey. Somewhat more than half of the book is given over to describing the operating principles, characteristics, and uses of photoelectric devices. The coverage is wide, including not only apparatus already in commercial use but also inventions still in the experimental stage. An example of the latter is a photoelectric reading machine for the blind. The work will be useful to engineers, machine designers, and inventors. Extensive bibliographies are appended to the chapters. The book supersedes V. K. Zworykin and E. D. Wilson, *Photocells and their application* second edition, New York, 1932.

COMMUNICATIONS ENGINEERING

GENERAL

ALBERT, ARTHUR LEMUEL

Electrical communication. Third edition. New York John Wiley & Sons, Inc., 1950. 593 p. illus. 23 cm. $6.50. 2165

Contents: Early history of electrical communication. Fundamentals of acoustics. Electrical fundamentals of communication. Electroacoustic devices. Electric networks. Transmission lines. Cables and wave guides. Electronic applications in communication. Telegraph systems. Telephone exchange service and systems. Telephone toll service and systems. Radio wave propagation and antennas. Radio systems. Interference and noise. Index.

Note: (1419) A standard work used both as a textbook in engineering colleges and a reference book in libraries. Although typical apparatus is described, most of the exposition has to do with the physical and electrical principles. The chapters are supplemented with good bibliographies. In this edition the text has been rearranged and matter has been added on developments since the last edition, including a much fuller treatment of dial telephone systems.

ALBERT, ARTHUR LEMUEL

The electrical fundamentals of communication. Second edition. New York McGraw Hill Book Company Inc., 1952 531 p illus. 24 cm. $7 00. 2166

Contents: The fundamentals of electronics. Direct voltages and currents. Conductors, resistors, and insulators. Direct-current electric power and energy. Alternating voltages and currents. The magnetic field and inductance. The electric field and capacitance. Electric measuring instruments. Alternating-current circuits. Algebraic representation of vectors. Electric networks. Bridge circuits. The transmission of electromagnetic waves. Fundamental principles of electron tubes. Electron tubes as circuit elements. Electroacoustics. Appendix. Natural trigonometric functions. Index.

Note: (1420) A successful introductory text for students at the trade-school level and for practical workers in the communications industries. It provides a simplified treatment of the fundamental electric and electronic theories and phenomena upon which telegraphy, telephony, radio, and television are based. It is not a descriptive work devoted primarily to devices. The first edition appeared in 1942. The purpose and scope of the book were not changed in revising it for the present edition; nevertheless, it has been extensively revised and many parts completely rewritten.

BREAZEALE, WILLIAM MCSWAIN, AND LAWRENCE R. QUARLES

Lines, networks and filters. Scranton International Textbook Company 1951. 293 p. illus. 24 cm. $6.50. 2167

Contents. Fundamental relations. Fundamental transmission-line quantities. General transmission-line equations. Open and short-circuited lines. The line with any termination; reflection losses. Telephone and telegraph lines. U-H-F and microwave lines; transmission diagrams. Resonant and tapered lines. Filter networks. Tuned circuits. Impedance transforming networks, equalizers, and attenuators. Line and network applications. Appendices. Index.

Note: A college textbook devoted chiefly to the phenomena and mathematical calculations of wave communications circuits. It deals not only with telephone and telegraph lines but also with submarine cables, coaxial cables, etc., and is limited largely to those aspects that would be of interest in the design of such circuits. The authors have made extensive use of vectors in order to keep the mathematics as simple as possible. The reader will need previous college courses in introductory physics and mathematics.

CREAMER, WALTER JOSEPH

Communication networks and lines. New York Harper & Brothers, 1951 353 p. illus. 24 cm. $6 00. 2168

Contents: Part I: Network configurations. Network impedances. Transmission constants. Network transformations and reductions. Attenuators. Network theorems. Miscellaneous circuits. Transformers. Losses. Transmission equalizers. Electric wave filters. Part II: General transmission equations. Open- and short-circuited lines. Lines with terminal impedances. Cable circuits. Composite lines. Line impedances. Transmission lines at carrier frequencies. Lossless lines. Appendices. Index.

Note: The first part of this textbook for advanced electrical engineering students deals entirely with networks and consists largely of network analysis and problems in the design of attenuators, filters, and equalizers. The second part contains the theory of communication lines with applications to cables and open-wire circuits at audio and carrier frequencies. The presentation is largely algebraic with liberal use of hyperbolic functions of complex angles. Tables and charts of hyperbolic functions appear among the appendices. Students beginning the book should have a general understanding of telephone apparatus and systems, as well as a knowledge of elementary hyperbolic function theory.

CUCCIA, C LOUIS

Harmonics sidebands, and transients in communication engineering as studied by the Fourier and Laplace analyses. New York McGraw Hill Book Company Inc., 1952 465 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E. Terman, consulting editor) $9.00. 2169

Contents: Elementary functions of a complex variable. Periodic-wave analysis—the Fourier series. Nonperiodic waves—the Fourier transform. The Laplace transform. Complex waves in radio, television, and radar. Linear-network analysis. Harmonic distortion—amplifier operation. Grounded-cathode-tube circuits. Harmonics and transients in filter networks. Harmonics and transients in amplifiers. Integrating, differentiating, and scanning systems for television. Reactance tubes, frequency stabilization, and phase synchronization. Modulation systems in electrical communications. Amplitude-modulated waves. Single-tone frequency modulation. Single-tone phase modulation. Indirect frequency modulation and wave interference. Multitone frequency-modulated waves and pulse-width modulation. Spectral analyses of finite wave trains. Wave transmission through linear networks. Traveling waves in communication systems. Exceptions in electrical communications. Appendix: Bessel functions of the first kind. Name index. Subject index.

Note. In this useful work the mathematics of harmonic and transient analysis are explained for communications engineers, and the mathematical methods are applied to a variety of engineering problems in the communications field. The nature and typical uses of Fourier and Taylor's series and the Laplace transformation in important subfields of communication engineering are fully covered. Selected literature references are included. The book is of interest not only to graduate students of communication engineering but also to engineers at work in research and design. The author is Research Engineer on the staff of the David Sarnoff Research Center of RCA Laboratories Division.

Hund August

High-frequency measurements. Second edition. New York McGraw Hill Book Company Inc., 1951 676 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell consulting editor) $11.00. 2170

Contents. Fundamental relations and circuit properties. High-frequency sources and other useful laboratory apparatus. Apparatus and systems for measuring high frequency minute tube and insulation currents. Determination of voltage. Determination of frequency. Determination of capacitance. Determination of self-inductance. Determination of mutual inductance and coupling. Determination of effective resistance. Determination of high-frequency power and losses. Determination of logarithmic decrement, power factor phase difference, and sharpness of resonance. Ferromagnetic measurements. Tube measurements. Modulation measurements. Measurements on lines and aerial systems. Determinations on wave propagation. Miscellaneous measurements. Appendix. Index.

Note (5738) An established work that is used both as textbook for advanced college students of radio engineering and as reference book in radio and electronics laboratories. In its present edition it presents thorough coverage of measurement methods throughout the band of radio frequencies that are now in use including UHF and super-high frequencies. Familiarity with radio terminology and engineering mathematics is assumed in the treatment. Important changes and additions were made in preparing the present edition.

Hund August

Short wave radiation phenomena. New York McGraw Hill Book Company Inc., 1952 2 v illus. 24 cm. (Radio communication series Beverly Dudley consulting editor) $20.00 2171

Contents Volume I, Fundamental concepts and relations of currents and electromagnetic fields Space electromagnetic fields of elementary electric and magnetic dipoles. Fundamental methods used in electromagnetic theory Propagation characteristics. Transmission lines and radiation Unobstructed space radiation Volume II, Space radiation in the presence of electromagnetic obstructions. Electromagnetic diffraction Wave guides and cavities. Appendix. List of references. Name index Subject index

Note An intermediate-level text or treatise, addressed both to students in formal courses and to radio experimenters and graduate engineers studying by themselves. The typical chapter is a self-contained monograph on a specific area of the field, containing the pertinent theory and the useful mathematical formulas and computations. The treatment is analytical and is adequately detailed for self-instruction. The work as a whole presents a wide range of information, together with references to the original literature. The subject index runs to 73 two-columned pages.

Jones Charles Reed

Facsimile. New York Murray Hill Books, Inc. 1949 422 p. illus. 24 cm. $6 00 2172

Contents Introduction, by W G H Finch Part I, What facsimile is: Facsimile in the past. Modern facsimile equipment. Facsimile services. Facsimile broadcasting Other facsimile devices. Part II, How facsimile works Facsimile transmitters. Facsimile transmission facilities. Facsimile reception. Facsimile synchronization and phasing Tape facsimile. Facsimile standards. Part III, Present-day facsimile systems. Facsimile makers. Acme telectronals. Alden Products Company The American Telephone and Telegraph Company Finch Telecommunications, Inc. Radio Inventions, Inc. Times Facsimile Corporation. Western Union Telegraph Company Part IV Servicing. Servicing facsimile equipment. Detailed service notes. Glossary Index.

Note. A descriptive rather than analytical work on the principles of transmission by wire and radio of facsimiles of photographs, printed material, etc. Specific, fairly detailed descriptions of facsimile apparatus now in production and use in the United States of America are included. Although there is some emphasis on matters that concern operating and maintenance personnel, the book is so written that it can serve as a general source of information on the subject.

Kerr, Donald E., editor

Propagation of short radio waves. Office of Scientific Research and Development, National Defense Research Committee. Editorial staff Donald E. Kerr S. A. Goudsmit, Leon B Linford and Albert M Stone. New York. McGraw Hill Book Company Inc., 1951. 728 p. illus 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N Ridenour editor in-chief Volume 13) $10.00 2173

Contents: Elements of the problem, by J. E. Freehafer and D. E. Kerr Evolution of the present problems. Tropospheric refraction. Atmospheric scattering and attenuation. Theory of propagation in horizontally stratified atmosphere, by J. E. Freehafer and others: Fundamental concepts. Geometrical optics. Physical optics. The linear modified index profile. Methods for calculating field strength with standard refraction. The bilinear modified index profile. Nonlinear modified index profiles. Meteorology of the refraction problem, by R. A. Craig and others: Humidity and refractive index. Vertically homogeneous air and adiabatic changes. Representation and description of soundings. Eddy diffusion. Vertical distributions in neutral and unstable equilibrium. Vertical distributions in stable equilibrium. Other atmospheric processes and their effect on M profiles. Instruments to measure temperature and humidity in the lower atmosphere. Meteorological constants. Experimental studies of refraction, by P. J. Rubenstein and others: One-way transmission over water. One-way transmission over land. Radar transmission. Space variations in field strength. Angle measurements on short optical paths. Reflections from the earth surface, by D. E. Kerr and others: Theory of specular reflection. Reflection coefficient of the ocean. Reflection coefficient of land. Errors in radar height measurements. Radar targets and echoes, by D E. Kerr and H. Goldstein The radar cross section of isolated targets. Complex targets. Sea echo. The origins of echo fluctuations. The fluctuations of clutter echoes. Meteorological echoes, by H. Goldstein and others: Origin of the echo. The intensity of meteorological echoes. General properties of precipitation echoes. Precipitation echo properties and meteorological structure. Atmospheric attenuation, by J. H. Van Vleck and others: Properties of the complex dielectric constant. Theory of absorption by uncondensed gases. Measurement of atmospheric absorption. Attenuation by condensed water Appendix, by D E. Kerr and others: Application of the Lorentz reciprocity theorem to scattering. Coherent and incoherent scattering from assemblies of scatterers. Name index. Subject index.

Note A cooperative volume by a team of scientists associated with radar research during World War II. It summarizes knowledge gained in many laboratories in the United States of America and abroad during this period. The authors state in the Preface, dated July 1947 "There has been no attempt to produce either a handbook or textbook, but only an interim report on a rapidly changing subject An attempt has been made to survey all relevant information that was available [illegible] and to summarize as much of it as was feasible." For descriptions of other volumes in the series see the author indexes of *Scientific, medical and technical books published in the United States of America* [illegible] *Supplement of books published 1945–1948* and of the book in hand.

King Donald D

Measurements at centimeter wavelength. New York D Van Nostrand Company Inc., 1952 327 p illus 24 cm. (Van Nostrand series in communications engineering, Herbert J Reich, editor) $5.50 2174

Contents: Introduction. Transmission of power at centimeter wavelength. Measurement of centimeter-wave power. Frequency wavelength and waveform measurement. Generators. Impedance measurement. Radiation measurements. Glossary of symbols. Subject index. Author index.

Note. Measurements of power and frequency in the wavelength range from about three meters to about ten millimeters are the subject of this book. Both the theory and technique of such measurements are covered. The importance of transmission line theory is stressed, but a considerable part of the space is devoted to techniques of measurements. Included in the discussions are descriptions of instruments and related circuits and indications of the applications and limitations of each method. The author is Assistant Director of the Radiation Laboratory of the Johns Hopkins University The book is of interest to graduate communications engineers and students already at work in communications research and design.

LAWSON, JAMES LLEWELLYN, AND GEORGE E. UHLENBECK, editors
Threshold signals. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw-Hill Book Company Inc. 1950 388 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Board of editors Louis N Ridenour editor in-chief, and others) $5 00 2175

Contents: Introduction. Types of signals and methods for their reception. Theoretical introduction. Basic origins of internal noise. Receiver noise. External noise sources—clutter. The detectability of signals in the presence of noise. Pulse trains in internal noise. Pulse trains in internal noise—other methods of presentation. Modulated pulse trains. Threshold pulsed signals in clutter. Threshold signals in electronic interference. Threshold modulations for amplitude-modulated and frequency-modulated continuous wave systems. Index.

Note: A treatise on the problems of detecting signals in the presence of electrical and electronic noise. As are the other books in the series, it is based largely on work done at MIT Radiation Laboratory during World War II. After an introductory discussion of types of signals and of kinds of noise, the various aspects of the problem are discussed from both the theoretical and experimental standpoints. Many of the illustrations are drawn from investigations of noise problems in radar. The book is addressed to graduate electronic and communications engineers.

LE CORBEILLER PHILIPPE
Matrix analysis of electric networks. Cambridge, Mass. Harvard University Press [and] New York John Wiley & Sons Inc. 1950 112 p. 22 cm. (Harvard monographs in applied science. No. 1) $3.00. 2176

Contents: Preliminary concepts. The mesh method of Kron. The node pair method. The mixed method. Index.

Note: In this short book the methods of analysis of rotating electrical machinery originated by Gabriel Kron and expounded in his *Application of tensors to the analysis of rotating electrical machinery* (Schenectady 1938 2. ed., 1942) and in his *Tensor analysis of networks* (New York, 1939) are presented in simpler form for the benefit of communications engineers who are not specialists in mathematics. The presentation relies upon matrix algebra and topology and the essential concepts of these two areas of mathematics are presented in the first chapter. In the succeeding chapters the author shows how to apply the techniques of matrix algebra and topology to the analysis of the fundamental types of stationary electric networks.

MARCUVITZ, NATHAN, editor
Waveguide handbook. New York Mc Graw Hill Book Company Inc., 1951. 428 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N Ridenour editor-in-chief. Vol. 10) $7.50 2177

Contents. Transmission lines. Transmission-line modes. Microwave networks. Two-terminal structures. Four-terminal structures. Six-terminal structures. Eight-terminal structures. Composite structures. Appendix. Glossary Index

Note: A systematic presentation of microwave field problems viewed as problems in microwave networks. As are the other volumes in the series, this one is based on intensive work carried out at the M.I.T Radiation Laboratory during the years 1942–46. It is designed for graduate communications engineers working in the microwave field. The basic general material is presented in the first three chapters. The remaining chapters are devoted to specific varieties of microwave radiating structures. In these chapters much useful information is presented graphically.

MARTIN, THOMAS LYLE, JR.
Ultrahigh frequency engineering. New York Prentice-Hall, Inc., 1950 456 p. illus. 22 cm. $8.00 2178

Contents: Wave-shaping circuits. Trigger circuits. Amplification for UHF systems. Introduction to transmission lines. UHF applications of transmission lines. Parallel plane waveguides. Waveguides and cavity resonators. UHF triodes and oscillators. Klystrons. Magnetron oscillators. Propagation of radio waves. Appendixes: Fundamental constants. Solution of the cylindrical waveguide. Index.

Note: As the chapter titles indicate, this book is devoted mainly to the circuits and other components of UHF systems in general. Radar, television, and other complete circuits in which UHF radiation is applied to specific uses are not considered. The book is outstanding for clear and rather full discussions of basic circuits and circuit elements. The author has assumed that his readers will be familiar with basic radio and engineering mathematics. The work is principally a textbook for upperclass college students majoring in physics or electrical engineering. It is suitable also for college graduates who possess the requisite basic scientific education and desire an introduction to this field for independent reading.

MOSKOWITZ, SIDNEY, AND JOSEPH RACKER
Pulse techniques. New York Prentice-Hall, Inc., 1951 300 p. illus. 23 cm. (Prentice-Hall electrical engineering series W L. Everitt, editor) $6.65 2179

Contents. Characteristics of pulses. Transient response of linear networks. Design of pulse networks. Linear pulse amplifiers. Pulse-shaping and clamp circuits. Pulse generation. Pulse measurements and instruments. Pulse communication systems. Aerial navigation aids. Appendixes: Review of complex-variable theory. Pulse response of cascaded wave filters. Pulse response of transmission lines. Index.

Note: The term "pulse techniques" designates systems of radio communication in which signals are broadcast in pulses or "bursts" of radiated energy rather than in modulated continuous waves. Continuous waves are the basis of standard radio, but pulses, the basis of radar, are finding more and more uses in other systems of communication, such as television and the microwave radio relays in telegraph and telephone circuits. This short book is designed as an introduction to the field for readers possessing knowledge of basic communication engineering and standard radio. The main viewpoint is practical, in other words, the purpose is to prepare the reader for work in the field.

MUCHMORE, ROBERT B
Essentials of microwaves. New York John Wiley & Sons, Inc., 1952 236 p illus. 23 cm. $4.50. 2180

Contents: The electromagnetic laws of Maxwell. Characteristic waves and wave guides. Cavity resonators and filters. Characteristic waves and antennas. Typical microwave antennas. Waves and electron streams; grid-control tubes. Klystrons. Traveling-wave and multiple-stream tubes. Magnetrons. Electrical noise. Microwave radio systems; relays. Radar. Applications of microwaves to physical research. Microwave measurements. Appendixes. Index.

Note: A simple, straightforward introduction. Some familiarity with radio terminology is necessary in order to understand it, but it is not addressed to readers who are studying the field because they plan to enter it professionally. Instead, it is an ideal book for such readers as electrical engineers specializing in, say, power system design, who desire to know something about microwaves for the sake of rounding out their store of information. The author emphasizes the fundamental simplicity of the subject and he has covered it in lucid style and more than 200 clearly drawn illustrations.

SLATER, JOHN CLARKE
Microwave electronics. New York D Van Nostrand Company Inc., 1950 406 p. 24 cm. (The Bell Telephone Laboratories series) $6.50 2181

Contents: The wave guide with perfectly reflecting walls. Reflection and standing waves. Power and energy relations. The theory of resonant cavities. The resonant cavity with one output. The cavity with two outputs. The cavity with several outputs, and coupled cavities. The periodically loaded wave guide. *Fundamental principles of electronic devices.* The klystron. The linear accelerator. The travelling wave amplifier. The magnetron oscillator. The cyclotron and synchrotron. Appendixes: Properties of bilinear transformations. Group velocity. Bibliography. Index.

Note: An essential book for engineers at work in the field of radar design and physicists concerned with the phenomena of electromagnetic waves in the millimeter and centimeter ranges. Mainly it is a mathematical treatment based on the theory of orthogonal func-

tions. This mathematical method is developed so that it can be applied generally to the prediction of microwave behavior. The author was one of the pioneer researchers during World War [illegible] he worked at the Bell Telephone Laboratories and the Radiation Laboratory at Massachusetts Institute of Technology on radar design and particularly on the magnetron. The book is [illegible] development of this work, and it embraces not only the author's contributions but those made by others to the mathematical solution of microwave problems.

SOUTHWORTH, GEORGE CLARK

Principles and applications of waveguide transmission. New York D Van Nostrand Company Inc., 1950 689 p illus. 23 cm. (The Bell Telephone Laboratories series) $9.50. 2182

Contents. Introduction. Principles of networks. Principles of transmission lines. The nature of electromagnetic waves. Waveguide theory. A descriptive account of electrical transmission. Waveguide transmission lines. Waveguide [illegible] (impedors). Waveguide components. Waveguide radiators. Electronic devices for waveguide use. Modulation and demodulation by waveguide methods. Appendixes: Ratios frequently used in waveguide calculations. RMA standard rectangular waveguides. Properties of certain dielectrics. References. Index.

Note: A substantial treatment of the current knowledge and practice of waveguides in the transmission of microwave radiation. The author [illegible] he is on the staff of Bell Telephone Laboratories, is one of the outstanding investigators of waveguide transmission. The first five chapters deal with the fundamental and historical aspects. Rather advanced mathematics is used in these, and they are addressed primarily to graduate students and practicing engineers. Although there are numerous graphs in the remaining chapters, these chapters are by comparison descriptive in nature and can be understood by readers [illegible] do not possess the mathematical training required for the reading of the first part of the book. There is 10-page list of references.

WARE, LAWRENCE ALBERT AND HENRY R. REED

Communication circuits. Third edition. New York John Wiley & Sons, Inc., 1949 403 p. illus. 24 cm. $5 50. 2184

Contents. Transmission-line parameters. Networks, T and [illegible] sections. Network theorems. The line composed of finite sections. The line having uniformly distributed parameters. Open-circuit and short-circuit lines. Reflection losses. The power-transmission line—efficiencies. Constant K filters. M-derived and composite filters. Impedance transformation. Ultrahigh frequency transmission in wave guides—general. Ultrahigh frequency rectangular wave guides. Ultrahigh-frequency cylindrical wave guides. Electromagnetic theory of coaxial lines. Transmission-line experiments. Appendixes. Index.

Note. (1932) In this college text for electrical engineering students the basic principles of communication transmission lines for all frequencies are presented, but the ultrahigh frequencies are discussed in the greatest detail. The treatment assumes [illegible] knowledge of calculus and elementary a-c theory. More advanced mathematics which may be required is included in the appendix. In this edition the chapters on transmission-line parameters and impedance matching have been rewritten and enlarged; the treatment of attenuation in wave guides is now based on Poynting's theorem; and the [illegible] number of review problems given at the end of each chapter has been increased.

SOUND RECORDING

FRAYNE, JOHN GEORGE, AND HALLEY WOLFE

Elements of sound recording New York John Wiley & Sons, Inc. 1949 686 p. 24 cm. $9.50. 2185

Contents (abridged) Nature of sound, sound waves, and their perception. Electrical, acoustical, and mechanical circuits. Microphones and their uses. Vacuum tubes. Audio amplifiers. Network theory. Attenuators. Filters. Equalizers. Compressors and limiting. Recording systems. Principles of disk recording. Fundamental principles of variable-density recording. Variable-intensity modulators. Principles of variable-area recording. Variable-area modulators. Noise-reduction methods. Flutter and its measurement. Film and disk drive mechanisms. Film laboratory processes. Rerecording. 35-mm motion-picture reproducing systems. 16-mm sound film systems. Magnetic recording. Loudspeaker systems. Acoustics of stages and theaters. Stereophonic recording. Index.

Note. A comprehensive presentation of the principles and basic techniques of the recording of sound. It had its origin in material collected for presentation to students at the University of California at Los Angeles; but in its present form it is intended for both students and practicing sound engineers. Although considerable space is given over to description of equipment, especially equipment used in commercial studios, the work is not in any sense a descriptive treatment. The authors' method is exemplified by the chapter on magnetic recording where the theory is explained, the two chief methods of magnetic recording are described, and the characteristics of the chief bias and erase methods are discussed from the engineering standpoint. Wire-recording systems and tape-recording systems are then discussed chiefly from the same viewpoint, but there is only one illustration of [illegible] recorder and no detailed description is given of it. The chapters are supplemented by short lists of references. Both authors are associated with the Western Electric Company

READ, OLIVER

The recording and reproduction of sound. Revised and enlarged second edition. Indianapolis Howard W Sams & Co., Inc., 1952 790 p. illus. 24 cm. $7 95 2186

Contents. Behavior of sound waves. History of acoustical recording. Basic recording methods. Lateral disc recording. Disc recorders. Microgroove recording. Recording (cutting) styli. The decibel. Phono reproducers (pickups). Tone arms and reproducing styli. Magnetic (tape and wire) recording. Magnetic tape recorders. Magnetic film recorders. Microphones. Loudspeakers and enclosures. Dividing networks and filters. Tone control (equalizers). Attenuators and mixers. Amplification. Preamp-equalizers. Music systems. PA sound systems. Acoustics. Tuners (AM FM). Speech input systems. Complete recording systems. Record manufacture (pressings). Audio measurements. Recording and reproducing standards. Appendix. Index.

Note: A comprehensive and useful manual about the theory, construction, and characteristics of present-day sound-recording and reproducing apparatus. The treatment is technical, and the book is adapted to the needs of most technical personnel in the industries concerned with sound recording and reproduction. It is addressed particularly to sound engineers and to men [illegible] who are responsible for the setting up and maintaining of sound apparatus. The first edition appeared in 1949. This edition contains about twice as much matter and is much improved in content and organization. The author is editor of *Radio and television news* and *Radio-electronic engineering*.

ANTENNAS

BAILEY ARNOLD B

TV and other receiving antennas (theory and practice) New York John F Rider Publisher Inc., 1950. 606 p. illus. 22 cm. $6.90. 2187

Contents: Review of definitions and terminology. The television signal and its bandwidth. Problems of television reception. The electromagnetic wave. The radio path. The theory of signal interception. The center-fed zero-db half-wave antenna. Comparison of zero-db half-wave antennas. Parasitic-element antennas. Horizontally polarized antennas and special types. Practical aspects of TV receiving antennas. Review questions. Index.

Note. A treatise on practical antenna engineering. The author has had [illegible] long experience in antenna design which is reflected in the book. Nevertheless, the work is designed not so much for specialists in antenna theory as for television installers and others who desire [illegible] relatively full treatment from the practical viewpoint. The characteristics of all of the current types of antennas that are useful in TV and other communications fields employing ultra high frequency radiation are described fully. Hundreds of special points, such as connecting an antenna by adding extra components, are discussed. A special feature is the inclusion of [illegible] "data sheets" for specific varieties of antennas.

KRAUS JOHN DANIEL

Antennas. New York McGraw Hill Book Company Inc. 1950 553 p. illus. 24 cm. (McGraw Hill electrical and electronic engi-

neering series F E. Terman, consulting editor) $8.50. 2188

Contents: Introduction. Point sources. The antenna as an aperture. Arrays of point sources. The electric dipole and thin linear antennas. The loop antenna. The helical antenna. The biconical antenna and its impedance. The cylindrical antenna: its current distribution and impedance. Self- and mutual impedances. Arrays of linear antennas. Reflector-type antennas. Slot, horn, and complementary antennas. Lens, long wire, and other types of antennas. Antenna measurements. Books for reference. Appendix. Index.

Note: A systematic treatment of antenna theory written in the form of a textbook for upperclass engineering students. Acquaintance with elementary electromagnetic theory the fundamentals of transmission lines and wave guides, and with mathematics through vector analysis is required for understanding the treatment. All the species of antennas which are of current interest are considered. Besides its intended use, the book should prove useful to graduate electrical engineers whose formal education did not include a course in antenna theory

LAPORT, EDMUND A.

Radio antenna engineering New York Mc Graw-Hill Book Company Inc., 1952 563 p. illus. 24 cm. $10.00. 2189

Contents: Low-frequency antennas. Medium-frequency broadcast antennas. High-frequency antennas. Radio-frequency transmission lines. Graphical synthesis of impedance-matching networks. Logarithmic potential theory Appendices. Index.

Note: A treatise designed for radio engineers who are not specialists in antenna theory but who must nevertheless design (and sometimes build) radio antennas. It is limited to antennas made of wires, masts, and towers for frequencies up to about 30 megacycles and to transmission lines used in the feeding of signals to such antennas. Major aspects, such as the calculation of radiation patterns, and minor aspects, such as the design of aircraft obstruction lighting, are both covered. Graphical methods are illustrated for the solution of many problems. The illustrations include a number of photographs of construction details. Selected bibliographies are included with the chapters, and in the appendix there is a general bibliography for the convenience of engineers in need of more detailed or more rigorous treatments of specific aspects. The author is Chief Engineer of the International Division of Radio Corporation of America.

SCHELKUNOFF SERGEI ALEXANDER

Advanced antenna theory New York John Wiley & Sons, Inc., 1952 216 p. 24 cm. (Applied mathematics series edited by I. S. Sokolnikoff) $6.50 2190

Contents: Spherical waves. Mode theory of antennas. Spheroidal antennas. Integral equations. Cylindrical antennas. Natural oscillations. Appendices. Index.

Note: Contemporary antenna theory at an advanced level of research is presented in this valuable monograph. The methods of other contributors, particularly E. Hallén, J A. Stratton, and L. J. Chu, to the modern theory are described, but the heart of the book is the 79 page second chapter in which the author's own method of dealing with the problems of thin antennas is covered more fully than in his previously published work. The treatment is largely mathematical and the mathematics is rigorous. The book is of primary interest to advanced graduate students and graduate engineers engaged in antenna research.

SCHELKUNOFF SERGEI ALEXANDER, AND HARALD T FRIIS

Antennas theory and practice. New York John Wiley & Sons, Inc., 1952 639 p. illus. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) $10.00. 2191

Contents. Physical principles of radiation. Maxwell's equations. Plane waves. Spherical waves Directive radiation. Directivity and effective area. Waves over ground. Antenna current. Impedance, reciprocity equivalence. Small antennas. Self-resonant antennas. General theory of linear antennas. Impedance of dipole antennas. Rhombic antennas. Linear antenna systems. Horns. Slot antennas. Reflectors. Lenses. Appendices. Index.

Note: This authoritative work is best described as a treatment of basic antenna theory for engineering students who are interested in the subject because they may eventually be concerned with practical antenna design. Construction details are not covered but the theory and mathematical computations that the practical engineer must know in order to design an antenna with specified characteristics are thoroughly covered. A knowledge of general physics and elementary calculus is a prerequisite. The authors have taken special pains to keep the mathematics in the book within the reach of undergraduate students. The discussions of most points are unusually full and clear. The book should be valuable also to a fair number of engineers not enrolled in colleges.

SILVER, SAMUEL, editor

Microwave antenna theory and design. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company Inc., 1949 623 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N Ridenour editor in-chief Vol. 12) $8.00 2192

Contents: Survey of microwave antenna design problems. Circuit relations, reciprocity theorems. Radiation from current distributions. *Wave fronts and rays. Scattering and diffraction. Aperture illumination* and antenna patterns. Microwave transmission lines. Microwave dipole antennas and feeds. Linear array antennas and feeds. Waveguide and horn feeds. Dielectric and metal-plate lenses. Pencil-beam and simple fanned beam antennas. Shaped-beam antennas. Antenna installation problems. Antenna measurements—techniques. Antenna measurements—equipment. Index.

Note. A comprehensive survey of the fundamental theories and principles of design for various types of microwave transmitting and receiving antennas. Like other books in the series, the material is based largely on work done at M I T Radiation Laboratory during World War II. The treatment is technical and mathematical, and includes a review of those elements of electromagnetic theory and physical optics essential to an understanding of the subject. Two chapters dealing with the methods utilized in determining antenna characteristics have been included.

RADIO

DREW CHARLES EDWARD

How to pass radio license examinations. Third edition—revised. New York John Wiley & Sons, Inc. 1952 406 p. illus. 24 cm. Stiff paper $5 75 2193

Contents: Basic law. Basic operating practice. Basic radiotelephone. Advanced radiotelephone. Radiotelegraph operating practice. Advanced radiotelegraph. Appendices: Federal Communications Commission, rules governing commercial radio operators (revised to June 27 1950) Extracts from radio laws. Q code and abbreviations. Abbreviations available for all services. Miscellaneous abbreviations and signals. International Morse code. Miscellaneous: Frequency vs. wavelength. Symbols. Abbreviations. Greek alphabet. Signs. Bibliography Aircraft radiotelegraph for flight radio operator, by John P Kennelly Ship radar techniques, by John J. Cameron. Bibliography

Note: (2188a) The third edition of this work, like the first and second, presents a large number of questions and answers to help students prepare themselves for Federal Communications Commission radio license examinations. The questions are numbered to correspond with the numbers in the F.C.C. study guide and many of the questions are accompanied by large, easily-read diagrams. New to this edition are the sections covering F.C.C. Element 7 (Aircraft radio telegraph for flight radio operator) and Element 8 (Ship radar techniques) The book is intended to be used in conjunction with standard textbooks.

ENNES HAROLD E.

Broadcast operator's handbook. Second edition. New York John F Rider Publisher Inc., 1951 440 p. illus. 22 cm. $5 40. 2194

Contents (abridged) Part 1, Operating in the control room and studio What you're up against. Keeping sound "out of the mud." Studio and control room. Part 2 Operating the master control. Part

3 Operating outside the studio. Remote control problems. Remote musical pickups. Eye-witness pickups and mobile transmitters. Field facilities. Part 4, Operating the transmitter: Operator's duties. Programs are entertainment. Measuring noise and distortion. Part 5, We're off the air: Emergency shutdowns. Preventive maintenance instructions. Part 6, Technically speaking: Control room and studio equipment. The broadcast studio. Selecting the broadcast transmitter location. Bibliography. Index.

Note: (1951) A thorough book on the work of engineers and other technical personnel concerned with the broadcasting of radio programs and the maintenance of broadcasting equipment. Such aspects of radio broadcasting as the placing of microphones, the arrangement of equipment for out-of-studio pickups, etc., are covered in detail. Forty-six pages are given to the important subject of preventive maintenance. The author is Staff Engineer for WIRE, in Indianapolis. The first edition of the book was published in 1947. The present edition is 175 pages longer and contains much new material.

FISCHER, BERNHARD

Radio and television mathematics: a handbook of problems and solutions. New York The Macmillan Company 1949 484 p. illus. 21 cm. $6 75 2195

Contents: Section I, Problems and solutions: Circuit components. Direct-current circuits. Alternating current circuits. Vacuum tube fundamentals. Amplifiers. Oscillators. Transmitters. Receivers. Power supplies. Antennas and transmission lines. Television. Measurements. Industrial and control circuits. Section II, Problems for further practice. Section III, Some important tools for radio mathematics: Powers of 10. Introduction to the slide rule. The *j*-operator. Polar vectors. Section IV, Formulas and tables: Electronic formulas. Tables. Appendix. Reference list. Answers to Section II. General index. Mathematical index.

Note: As the chapter titles indicate, the scope of this book is more advanced than some of the texts which have been written on the mathematics used in radio and television. It has been developed from material used in classes given by the author and is designed primarily as a textbook for use in organized classes. However, it is somewhat suitable for self-instruction, especially for advanced students who have had a course in college algebra. Much of the exposition is expressed in the form of worked solutions of typical problems. Several hundred practice problems for the student are given in the second section of the book. An extended section of useful formulas and tables at the end of the book has some reference value.

GHIRARDI ALFRED A.

Radio and television receiver circuitry and operation by Alfred A. Ghirardi assisted by J Richard Johnson New York Rinehart Books Inc. 1951 669 p. illus. 24 cm. $6 00 2196

Contents: Amplitude modulation and AM signals. Frequency modulation and FM signals. R F amplifiers and T R F receivers. AM superheterodyne receivers. AM detector and AVC systems. FM receivers. Push-button tuning and AFC systems. A-F amplifiers. Loudspeakers. Radio receiver power-supply systems. TV principles and the TV receiver. Receiving antenna systems. Home recorders. Phono pickups and record players. Automatic record changers. Mechanical construction of receivers. Glossary. Answers to odd numbered review questions. Index.

Note: An introduction written primarily for practical students who are preparing for or are already engaged in radio and television installation and servicing. Also, there is some appeal to radio amateurs. For an introductory book the treatment is unusually full. The chief aim of the authors was apparently to impart a basic understanding of the principles of circuit elements and typical complete circuits. Full circuit diagrams of specific makes and models of receivers are, of course, not included. The first named author has written the widely used *Radio physics course* and other books.

GHIRARDI ALFRED A. AND J RICHARD JOHNSON

Radio and television receiver troubleshooting and repair New York Rinehart Books Inc. 1952 822 p. illus. 24 cm. $6 75 2197

Contents (abridged): Receiver components and their troubles. The importance of a systematic troubleshooting procedure. Basic troubleshooting methods. Practical direct approach troubleshooting. Special troubleshooting problems in a-c d-c and three-way portable receivers. Special troubleshooting problems in battery-powered receivers. Servicing communications receivers. Troubleshooting television receivers. Taking receiver performance data. Realigning AM receivers. Realigning FM receivers. Realigning TV receivers. Replacement of defective resistors. Replacement and repair of R F and I F inductors and transformers. Replacement and repair of defective power, A-F and deflection-frequency inductors and transformers. Replacement and repair of defective capacitors. Servicing defective tuning-drive mechanisms. Testing, replacement, and repair of loudspeakers. Repair and replacement of record-playing equipment. Servicing home recorders. Appendix. Index.

Note: (1951) A comprehensive textbook for use in vocational courses offered to men who are preparing to become radio and television servicemen, and for men already in this service industry who wish to extend their knowledge by home study. The discussions are practical and detailed. Many operations are described step by step. No mathematics is used but the writing is in the terminology of the industry. The book replaces the senior author's popular *Modern radio servicing*.

HENNEY, KEITH, editor in-chief

Radio engineering handbook. Fourth edition. New York McGraw Hill Book Company Inc., 1950. 1197 p. illus. 23 cm. $10.00 2198

Contents: Basis of radio communication, by B. Dudley. Resistance, by Jesse Marsten. Inductance, by F. G. Weber. Magnetic materials, by R. L. Sandford. Capacitance, by E. L. Hall. Combined circuits of L, C and R, by W. F. Lawrence. Electrical measurements, by R. F. Field and J. H. Miller. Power-supply systems, by R. C. Hitchcock. Audio-frequency amplifiers, by O. Koehler. Radio-frequency amplifiers, by K. S. Glasgow. Vacuum-tube oscillators, by R. I. Sarbacher and D. C. Felden. Modulation and detection, by L. F. Curtis. Radio-wave propagation, by D. Pollack. Electron tubes, by G. D. O'Neill. Antennas, by E. A. Laport. Wave-guides and cavity resonators, by T. Moreno. Loud speakers and room acoustics, by H. S. Knowles. Recording systems, by C. E. Dean. Radio broadcasting, by C. G. Dietsch. Television, by D. G. Fink. Facsimile, by R. E. Mathes. Radio aids to aviation, by H. Diamond. Code transmission and reception, by J. B. Moore and D. S. Rau. Index.

Note: (1941) A standard reference book in which "easy" type of exposition and tabulated engineering data are combined. It is suitable for advanced students of radio engineering, advanced radio amateurs and, of course, practicing radio engineers. In the present edition the type has been completely reset and the format altered to give a larger page size. Enough material has been added to occupy 200 more pages. The chapter on wave-guides treats a topic that was not mentioned in the third edition. The titles of the other chapters are the same or are changed slightly but examination shows that the contents of a substantial number are essentially new.

HENNEY KEITH AND GLEN A. RICHARDSON

Principles of radio. Sixth edition. New York John Wiley & Sons, Inc., 1952. 655 p. illus. 22 cm. $5 50. 2199

Contents: Fundamentals. Direct-current circuits. Electrical units and measurements. Magnetism and electromagnetism. Inductance. Capacitance. Properties of alternating-current circuits. Resonance. Properties of coils and condensers. Vacuum tubes. The tube as an amplifier. Rectifiers and power supply apparatus. Audio amplifiers. Detection of amplitude-modulation signals. Amplitude-modulation receiver systems. Oscillators. Amplitude-modulation transmitters. Transmission lines, antennas, and electromagnetic radiation. Frequency modulation and detection. Ultra-high frequency phenomena. Electronic instruments. Transients and wave shaping circuits. Television. Radar. Index.

Note: (1945*) A popular self-instruction and vocational school text since the appearance of the first edition in 1929. Only simple mathematics is used and the discussions of fundamental topics are exceptionally full. Numerous worked examples and procedures for a few experiments requiring a minimum of apparatus are included. The present edition represents an extensive revision with many pages of new material and many new illustrations.

HORNUNG, J L., AND ALEXANDER A. MC KENZIE

Radio operating questions and answers. Eleventh edition. New York McGraw Hill Book Company, Inc. 1952 557 p. illus. 21 cm. $6 00. 2200

Contents (abridged) Radio laws, regulations, and operating practice. General theory transmitters, receivers. Power supplies, batteries, motors, motor-generators, indicating instruments. Special endorsements. Appendix. Index to question numbers. Index of diagrams and illustrations. Index of subjects.

Note: ([illegible]) Since its first appearance in 1921 this book has been widely used as review of radio theory and practice by persons studying for government examinations for radio operator licenses. Its wide scope together with the detailed indexes makes it *useful also as desk reference book for both amateur and professional* operators and amateurs. In preparing this edition the material was extensively rearranged, numerous revisions in the questions and answers were made, new illustrations were drawn, and the text was reset in new typography

KIVER, MILTON SOL

F M *simplified* Second edition. New York D Van Nostrand Company Inc. 1951 453 p. illus. 21 cm. $6.50. 2201

Contents: Introduction to frequency modulation. F M from phase modulation. F-M and interference. Propagation, reception, and transmission of F M signals. R.F tuners for F M receivers. High frequency oscillators. I.F amplifiers. Limiters. F-M detectors. Audio amplifiers and high fidelity. F-M receiver alignment. Commercial F-M receivers. *Servicing F-M receivers.* Commercial F-M transmitters. Index.

Note: ([illegible]) A standard text for radio servicemen and laymen who are familiar with the principles and terminology of amplitude modulation and wish to extend their knowledge to f-m. It is written so that it may be used in organized classes at the trade-school level or as self-instruction manual. The advantages of frequency modulation are discussed and the similarities and differences between a-m and f-m systems are covered. F-m circuit elements and circuits are described in sufficient detail to make the basic principles clear. Numerous explanatory charts and some wiring diagrams, typical of the circuits of f-m equipment produced for the U.S.A. market, are included. The first edition was published in 1947. In this edition the book is approximately 100 pages longer and contains considerable material that did not appear in the 1947 edition.

MACLAURIN WILLIAM RUPERT

Invention & innovation in the radio industry with the technical assistance of R. Joyce Harman with a foreword by Karl T Compton. New York The Macmillan Company 1949 304 p. illus. 22 cm. (Massachusetts Institute of Technology Studies of innovation) $3 95 2202

Contents: The scientific pioneers of radio. The impact of new scientific advances on established industry. The process of invention and innovation—Marconi and the wireless telegraph 1896–1900—Fessenden, De Forest and the early wireless telephone. The role of the large electrical firms in wireless: *1912–1921. The struggle over* patents: 1921–1928. The perennial gale of competition 1928–1941. The rise of industrial research—Radio 1900–1941—Television. Government regulation and technical progress—*FM* and television 1900–1941. Conclusions. *Appendixes: The elements of modern radio communications.* Radio patent litigation. Bibliography. Index.

Note: Essentially history of the radio and television industry from an economic-technical point of view. This book portrays the complicated interrelationships of basic inventions, patents and patent litigation, and the policies and organizational activities of large corporations which have figured in the developments of this industry especially in the United States of America. Technical details of vacuum tubes, radio circuits, and related apparatus are discussed but the main interest is in the influence of the important inventions and patents. Thus the book covers an aspect of technical development which is often ignored in writing the history of invention. It is heavily documented with references to both published and unpublished material.

THE RADIO AMATEUR'S HANDBOOK. Twenty ninth edition. West Hartford, Conn. The American Radio Relay League, 1952 549 p. illus. 24 cm. $3 00 2203

Contents: Amateur radio. Electrical laws and circuits. Vacuum-tube principles. High-frequency communication. High-frequency receivers. High-frequency transmitters. Power supplies. Keying and break-in. Speech amplifiers and modulators. Amplitude modulation. Frequency and phase modulation. Reduced-carrier and single-sideband transmitting techniques. Transmission lines. Antennas. Above V.H.F. V.H.F receivers. V.H.F transmitters. V.H.F antennas. U.H.F and microwave communication. Mobile equipment. Measuring equipment. Assembling station. BCI and TVI. Construction practices. Operating station. Miscellaneous data. Vacuum-tube data. Catalog section. Index.

Note: ([illegible]) A long established reference work written primarily for the amateur radio enthusiast. Material on theory and design *fundamentals is included, but the main emphasis is on functions,* characteristics, and details of apparatus. In this edition special attention is given to problems of radio amateur interference with television transmission; the information regarding new equipment has been brought up to date; and chapter on amplitude modulation has been added. Such useful reference features as circuit diagrams, symbols, and tube characteristics have been retained. An advertising or catalogue section runs to 143 pages.

RIDER JOHN FRANCIS, AND SEYMOUR D USLAN

F M transmission and reception. Second edition. New York John F Rider Publisher Inc. 1950 426 p. illus. 22 cm. $4 95 2204

Contents. Part I: *Fundamental considerations.* Frequency modulation. *Essentials of F-M transmitters.* Transmitters of today. The transmission of F-M signals. *Part II:* Receiving antennas. The F-M receiver. Alignment of F-M receivers. Servicing F-M receivers. *F.M. in* television receivers. Appendix. Bibliography. Index.

Note. ([illegible]) A practical introduction for radio amateurs, radio repairmen, and other persons who already have knowledge of amplitude modulated radio and of the technical terminology of radio. *It is suitable for use in organized classes at trade schools and also* as self-instruction text for men studying the subject at home. The text of the present edition is the same as the first, except that the chapter on FM in television receivers has been added. Also the review questions that were added in the sixth printing of the first edition have been retained.

SHEINGOLD ABRAHAM

Fundamentals of radio communications. New York D Van Nostrand Company Inc. 1951 442 p. illus. 24 cm. (The Van Nostrand series in communications engineering edited by Herbert J Reich) $5.25 2205

Contents: General principles of radio communication. Electric circuit fundamentals. Basic radio circuit components. Basic radio circuits. Transfer of power in radio systems. Generation and propagation of radio waves. Fundamental principles of electron tubes. Operational characteristics of electron tubes. Amplification of small alternating voltages. Amplification of large alternating voltages. Rectifiers and rectifier-filter d-c sources. Sine-wave oscillators. Amplitude modulation—A-M transmitters. Detection—reception of A-M signals. Frequency conversion—the superheterodyne receiver. Frequency modulation. Basic pulse circuits. Ultra high-frequency techniques. Image-transmission systems. Special communication techniques. Radar and radio navigation systems. Index.

Note: A new textbook written by member of the faculty of the *United States Naval Postgraduate School. It is suitable for students* who have an advanced technical interest in the field but lack knowledge of mathematics beyond college algebra. No previous education in radio has been assumed. The book is especially good for discussions of elements such as "squelch" circuits which are omitted from typical introductory books on radio.

SLURZBERG, MORRIS, AND WILLIAM OSTERHELD

Essentials of electricity for radio and television. Second edition. New York McGraw-

Hill Book Company Inc. 1950 533 p. illus. 24 cm. $6.00 2206

Contents: Communication. Basic theory of electricity. Batteries. Electric circuits. Magnetism. Meters. Electrical power apparatus. Inductance. Capacitance. Alternating-current circuits. Resonance. Basic electronic circuits. Appendix. Index.

Note: (1860) An introductory book designed for the instruction of men who are preparing for practical work in radio and television installation and maintenance. Although the treatment is essentially descriptive and mathematics beyond elementary algebra is not employed, it is somewhat more substantial book than the conventional practical text. The first edition was published in 1944. Important changes and additions were made in preparing this edition. Electric circuit phenomena are now explained in terms of electron flow; the scope has been extended to include the elements of television and the discussion of sound has been expanded.

STERLING GEORGE EDWARD AND ROBERT B MONROE

The radio manual. Chapter on television by Thomas T Goldsmith Jr Fourth edition. New York D Van Nostrand Company Inc., 1950. 890 p. illus. 26 cm. $12.00. 2207

Contents: Elementary electricity and magnetism. Motors and generators. Batteries. The electron tube. Amplifiers and oscillators. Amplitude modulation. Frequency modulation systems. Radio-frequency measurements and monitors. Broadcast studio and control room audio facilities. Standard broadcast transmitters. FM broadcast transmitters. Television. Marine radio equipment. Lifeboat radio equipment. Marine navigational aids. Radio wave propagation. Antennas. Radio equipment for the emergency services. Important extracts from the Communications Act of 1934 as amended by Public 97 approved May 20, 1937. F C C. rules and regulations. International telecommunication convention of Atlantic City and radio regulations, 1947. Index.

Note: (1861) A long-established and widely used textbook and reference manual. It is aimed for the student and operator with occupational interests in the field, and is standard work for those who are studying to pass examinations so as to obtain licenses as commercial operators. However it serves also as small encyclopedia of the field for radio amateurs and for engineers. The third edition was published in 1940. For the fourth edition revisions were made to cover developments of the decade 1940–1950 and to cover the latest regulations and standards of the Federal Communications Commission. New chapters and sections have been added on such topics as radio wave propagation, antennas, and radar. Numerous schematic wiring diagrams of commercial equipment are included.

WATSON HERBERT M AND OTHERS

Understanding radio a guide to practical operation and theory by Herbert M Watson Herbert E. Welch and George S Eby Illustrated by Herbert E. Welch. Second edition. New York McGraw Hill Book Company Inc. 1951 716 p. illus. 24 cm. $6 50 2208

Contents (abridged): Radio waves and wave travel. Something about electricity. Magnetism and direct-current meters. Ohms' law by simple mathematics and by meters. How to build and wire the tube circuit board. Principles of the vacuum tube. W ve-form pictures. Alternating currents in radio circuits. Resonance and tuning. Receiving sets using direct-current tubes. The dynamic loudspeakers. Power supplies. Alternating-current receiving tubes. The superheterodyne receiver. Short-wave sets. Public-address units. Power oscillators and amplifier circuits. Radio-telephone transmitters. Antennas. The very high frequencies. Frequency modulation. Looking ahead in radio. Index.

Note. One of the more successful introductions for students with no previous education in mathematics or electricity. In it the fundamentals of electricity are explained in simple terms and with the aid of numerous experiments. Very little mathematics is used, and the special terminology of radio is introduced gradually. The book is suitable for use both in organized classes with laboratory facilities and in home study. A considerable share of the simple apparatus can be constructed at home. In this edition there are many new illustrations, and material has been added on modern tubes, power supplies, public address units, etc.

TELEVISION

ANNER GEORGE E

Elements of television systems. New York Prentice-Hall Inc. 1951 804 p. 22 cm. $10.35 2209

Contents: Part I, Closed television systems: Transmission of pictures. Picture standards. Scanning methods. Scanning generators. Scanning and picture reproduction. Camera tubes. Video amplification. Closed television systems. Part II, The commercial telecasting system. Special problems of telecasting. The optimum number of lines. Synchronization. Vestigial sideband transmission. The video transmitter. Receivers. Stagger-tuned amplifiers. The receiving antenna. Televising motion pictures. Part III, Color television systems. Appendix. Dot systems of television transmission. Problems. Index.

Note: This work by faculty member of the College of Engineering of New York University is treatment from the communication engineer's viewpoint. Though planned for the college student of engineering, it is full enough and the treatment mature enough to make the book useful to such readers as graduate engineers who have been working in radio and are preparing to switch to television. The detailed treatment of closed systems in Part is unusual. The 64-page chapter on color television contains general discussion of the subject and specific descriptions of the leading systems. There is no systematic bibliography but there are occasional footnote references to related articles.

DEUTSCH SID

Theory and design of television receivers. New York McGraw Hill Book Company, Inc. 1951 536 p. illus 24 cm. (McGraw Hill television series Donald G Fink, consulting editor) $7.50. 2210

Contents: Television standards. Characteristics of amplifier and rectifier circuits. Properties of tuned coupling circuits. Antenna and R-f section. Video I-f section. Detector and automatic gain control. Sync circuits. Video amplifiers and D-c restorers. The sound section. Sweep circuits. Video amplifiers and D-c restorers. The sound section. Magnetic deflection and focusing. Power supplies. Automatic frequency control. Intercarrier sound reception. Direct- and projection-viewing systems. Television receiver servicing. Index.

Note: A notable contribution to the literature of television. It is designed for advanced students and other readers primarily interested in the engineering aspects. The emphasis is on established standards, the basic circuits, and the practical design of television receivers. The mathematics essential to the engineering approach is, of course, not avoided. An understanding of standard radio is the main prerequisite.

DOME ROBERT B

Television principles. New York McGraw Hill Book Company Inc., 1951 291 p. illus. 24 cm. (McGraw Hill television series, D G. Fink consulting editor) $6.00. 2211

Contents: Early history of television and some fundamental conceptions. Electronic methods of scanning and reproduction. Television frequency amplifiers. Radio transmitting apparatus. Antennas for transmission and reception. Radio-frequency input circuits and second detectors. Intermediate-frequency amplifiers. Picture second detector. The scanning system. Miscellany. Propagation and relays. Index.

Note: An introductory treatment for engineers who have had no previous acquaintance with the subject. Since it was developed for an audience already familiar with calculus and the fundamentals of electrical engineering, the author has devoted the space entirely to television. Much of the text is descriptive, but mathematics has not been avoided. The book was developed from lectures that formed an after-hours educational course offered by the General Electric Company to its own employees and also to graduate engineering students in Syracuse University. There is an occasional bibliographical footnote.

FINK DONALD G

Television engineering. Second edition. New York McGraw Hill Book Company Inc. 1952 721 p illus. 24 cm. (McGraw Hill television series Donald G Fink, consulting editor) $8.75 2212

Contents: The television system. Analysis and synthesis of images. Camera and picture tubes. Scanning and synchronization methods. Transmission of the video signal. Video amplification. Carrier transmission of picture and sound signals. Color fundamentals. Color television systems. Television broadcasting equipment. Television receiving equipment. Appendix: Standards of good engineering practice. Name index. Subject index.

Note: (1946) The chapter titles fail to indicate the richness of this book's content. The author has included not only good discussions of main points of the subject but also full discussions of subtopics such as the principles of the iconoscope mosaic. His chapter on color television systems runs to 64 pages and describes in detail the various systems that have been developed in laboratories. The book is organized as a textbook for upperclass engineering students, but it is suitable also for graduate electrical engineers in need of an introductory survey of television. There are good bibliographies. The first edition appeared in 1940 under the title *Principles of television engineering*. In this edition the work has been largely rewritten and contains much new material.

Grob, Bernard

Basic television—principles and servicing. New York McGraw Hill Book Company Inc., 1949 596 p. illus. 23 cm. (McGraw Hill television series D G Fink, consulting editor) $7.50. 2213

Contents (abridged): The television system. Camera tubes. Scanning and synchronizing. The composite video signal. The picture carrier signal. Frequency modulation. Television receivers. Picture tubes. Power supplies. Video amplification. Brightness control and d-c reinsertion. Video detector and automatic gain control. Separation of the synchronizing signals. Deflection generators. Deflection circuits. Picture I F stages. The R-F tuning section. Antennas and transmission lines. The associated sound signal and FM receivers. Receiver servicing. Television broadcasting. Color television. Light. Appendixes. List of visual aids materials. Index.

Note: A much fuller treatment of television principles and operation is given in this book than is provided by most elementary texts. The material is almost wholly descriptive, but the discussions are detailed and precise. The work is intended for use in the training of technicians, especially men preparing for occupations associated with the installing and servicing of television receivers. A knowledge of standard radio equipment and terminology is assumed. The author is on the teaching staff of RCA Institutes, Inc.

Helt Scott

Practical television engineering. New York Murray Hill Books, Inc., 1950 708 p. illus. 23 cm. $7.50 2214

Contents: The fundamentals of picture transmission. The cathode-ray tube. The cathode-ray oscillograph. Electron tubes for image pickup. The synchronizing generator—timing, shaping and deflection circuits. The video amplifier and cathode follower. The voltage-regulated power supply. The television receiver. The television camera chain. The television transmitter. Television broadcasting techniques. Glossary. Index.

Note: A detailed presentation of television transmission and reception from the engineering viewpoint. Most of the space is given to matters which are of interest to engineers associated with television broadcasting, but enough is included on television reception to make the picture complete. The work is aimed primarily at practicing engineers at work for broadcasting stations, but it is suitable also for students who are preparing for such work. It is outstanding for its brief discussions of such matters as the special problems of "local remotes" and the routine procedures which are essential to maintaining a television transmitter in peak operating condition. The useful glossary runs to thirty pages and there are plenty of illustrations and reference lists. The author is on the staff of the Research Division of Du Mont Laboratories, Inc.

Kiver, Milton Sol

Television and F M receiver servicing. Second edition. New York D Van Nostrand Company Inc., 1950. 248 p. illus. 28 cm. Paper $3.25 2215

Contents (abridged): The antenna system—operation and installation. Television receiver installation. Television test equipment. The television receiver—operation and servicing. Television receiver alignment. Intercarrier television sound receivers. Trouble shooting television receivers. F M fundamentals. Commercial F M receiver circuits. F-M receiver alignment. F-M receiver servicing. Index.

Note. (1951) A practical guide to the installation and servicing of television receivers and FM radio receivers for men experienced in the servicing of AM radio receivers. Theory and design are discussed only where needed to clarify servicing problems. The scope and arrangement of this revision remain the same as in the previous edition, but new circuits introduced since 1948 are described and analyzed. A chapter on the intercarrier sound television system has also been added.

Kiver, Milton Sol

Television simplified. Third edition. New York D Van Nostrand Company Inc., 1952 608 p. illus. 22 cm. $6.50. 2216

Contents: The television field. U.H.F. waves and the television antenna. Wide-band tuning circuits—R.F. amplifiers. The H F oscillator, mixer and I.F. amplifiers. Diode detectors and A G.C. circuits. Video amplifiers. D-c reinsertion. Cathode-ray tubes. Synchronizing circuit fundamentals. Deflecting systems. A typical television receiver—analysis and alignment. Frequency modulation. Intercarrier television sound system. Servicing television receivers. Color television. Questions. Glossary. Appendix. Index.

Note: (1952) An introductory text addressed to readers with elementary practical interests, particularly men who are preparing for the occupation of repairing home television receivers. Basic principles and standard circuits and circuit elements are described and explained in semi-technical style. Major changes apparent in this edition include a newly added chapter on intercarrier television sound systems and an expanded section on television color systems. The book is more than 150 pages longer.

Lytel, Allan

TV picture projection and enlargement. New York John F Rider Publisher Inc., 1949 179 p. illus. 22 cm. $3.30 2217

Contents: Properties of light: reflection and mirrors. Refraction and lenses. The television picture. Commercial applications of the modified Schmidt projection system. Commercial receivers using refractive projection. Television and motion pictures. Appendix. Bibliography. Index.

Note: Considered from the standpoint of optical systems, there are two basic types of television receivers: those in which the viewer sees the picture directly on the large end of the picture tube, and those in which the picture is enlarged or projected by means of lenses and mirrors so that it appears larger or in a different position. This book is concerned with the optics of the systems of lenses and mirrors used in the second kind of receiver. It is written for such groups as television servicemen who must understand the principles and details of these optical systems in order to repair and adjust them. The book is rather generously illustrated with both diagrams and reproductions of photographs. It is suitable either for use in organized courses or home study.

Mandl Matthew

Mandl's television servicing. New York The Macmillan Company 1952 421 p illus. 24 cm. $5.50. 2218

Contents (abridged): Television receiver fundamentals. Localizing the trouble. Master index to common television troubles. The picture tube and associated components. R-F mixer-oscillator stages. The sound section. Video I F video amplifiers, video detector, and D-C restorer. The sync separator stages. The vertical sweep system. The horizontal sweep system. The power supplies. Repairing and improving antenna systems. Projection television. Test equipment and color receiver sections. The oscilloscope as a modern servicing tool. The sweep generator. The marker and other servicing equipment. Color television servicing. Appendix. Index.

Note: A compactly written, practical book for men in the trade of installing and servicing television receivers. Its chief intended use is as a textbook in trade school classes, but it contains enough specific information on everyday servicing to make it useful to men already at work in the industry. The reference type of use is facilitated by the "Trouble Index" on pages 41 to 51. Most of the book is taken up with the descriptions of systems and other elements of television receivers and with testing and servicing operations. The author is associated with the Technical Institute of Temple University.

RADAR

BELL TELEPHONE LABORATORIES

Radar systems and components. By members of the technical staff of Bell Telephone Laboratories. With an introduction by Mervin J Kelly New York D Van Nostrand Company 1952 1042 p. illus. 23 cm. (The Bell Telephone Laboratories series) $8.50. 2219

Contents (abridged) Early fire-control radars for naval vessels. The magnetron as a generator of centimeter waves: Part I—The magnetron oscillator Part II—Developmental work on the magnetron oscillator at the Bell Telephone Laboratories, 1940–1945. High-vacuum oxide-cathode pulse modulator tubes. Coil pulsers for radar. Spark gap switches for radar The gas-discharge transmit-receive switch. The radar receiver. Reflex oscillators. Development of silicon crystal rectifiers for microwave radar receivers. Characteristics of vacuum tubes for radar IF amplifiers. Radar antennas. Techniques and facilities for microwave radar testing. High Q resonant cavities for microwave testing. End plate and side wall currents in circular cylinder cavity resonator Some results on cylindrical cavity resonators. Index.

Note The Bell Telephone Laboratories, Inc. played a large part in the development and manufacturing of radar and radar devices for use by the United States of America and its allies during World War II. Although this book is not based entirely upon the work of the Bell Telephone Laboratories and its subsidiary the Western Electric Co., all of the authors are or were associated with the BTL. The various chapters are essentially separate essays devoted to the history description, and applications of particular radar components or systems. Electromagnetic fundamentals and component characteristics are discussed in detail at the level of graduate students and graduate engineers in the electronics field. Much of the matter included is of practical use in the design of radar components and systems. Each of the chapters is accompanied by a bibliography

LUCK, DAVID G C

Frequency modulated radar New York McGraw Hill Book Company Inc., 1949 466 p. illus. 24 cm. $6.50 2220

Contents. Part I, Principles and techniques: Introduction. Principles of operation. Radio apparatus used in f-m radar systems. Apparatus for utilization of f-m radar data. Motion of aircraft and missiles. Part II, Applications: Single target f-m radar systems. Accessory circuits and methods of calibration. Developmental single-target systems. Multiple target systems. Index.

Note Conventional radar is based on the principle of pulsed signals. However, a considerable amount of research has been done on the use of frequency-modulated signals in radar The present book is essentially a comprehensive report of this work. It was prepared originally as a report to the Navy under a government contract. It is addressed to graduate engineers who are familiar with the terminology of radio and of pulsed radar.

NATIONAL DEFENSE RESEARCH COMMITTEE

Radio wave propagation Consolidated summary technical report of the Committee on Propagation of the National Defense Research Committee. Charles R. Burrows, chairman. Stephen S Attwood editor New York. Academic Press Inc., 1949 548 p. illus. 28 cm. $12.00. 2221

Contents (abridged) Volume I, Technical survey—Part 1, Summary: Standard propagation. Meteorological measurements. Transmission experiments. Scattering and absorption of microwaves. Part 2 Conference reports on standard propagation: A graphical method for the determination of standard coverage charts. Theoretical analysis of errors in radar due to atmospheric refraction. Siting and coverage of ground radars. Part 3, Conference reports on nonstandard propagation Tropospheric propagation and radio meteorology Incipient leakage in a surface duct. The solution of the propagation equation in terms of Hankel functions. Perturbation theory for an exponential M curve in nonstandard propagation. First order estimation of radar ranges over the open ocean. Volume II, Radio wave propagation experiments—Part 1, Meteorology. Part 2 Miscellaneous experiments: Reflection coefficients. Dielectric constant, absorption and scattering. Echoes and targets. Angle-of-arrival measurements. Volume III, The propagation of radio waves through the standard atmosphere Antennas. Factors influencing transmission. Calculation of radar gain. Coverage diagrams. Diffraction by terrain. Targets. Glossary Bibliography

Note As the subtitle indicates, this volume brings together in condensed form the three-volume report prepared by the Committee on Propagation of the National Defense Research Committee, of which only 210 copies were printed. The report is a technical account of problems relating to radio wave propagation in the atmosphere at frequencies above thirty megacycles, and is written for college-trained radio and electrical engineers. The fundamental principles of propagation, the effect of earth and atmosphere characteristics on radio waves, and the properties of antenna systems are discussed in detail. It will thus be of particular value to engineers responsible for designing, locating, and operating radar systems and countermeasure equipment. The appendix includes an extensive bibliography of technical reports prepared by various governmental and civilian organizations.

REINTJES, J FRANCIS, AND GEOFFREY T COATE

Principles of radar By members of the staff of the Radar School, Massachusetts Institute of Technology Third edition. New York McGraw Hill Book Company Inc., 1952 985 p. illus. 24 cm. $7 75 2222

Contents: Pulsed radar. Timing circuits. Modulators. Indicators. Synchros and servomechanisms. Receivers. Radio-frequency transmission lines. Waveguides. Resonant lines and cavities. High-frequency triode oscillators. Klystrons and magnetrons. Radio-frequency transmitting and receiving systems. Antennas. Propagation. Index.

Note (1952) An authoritative work developed originally for use in the basic course given to selected Army and Navy personnel at the M.I.T Radar School during World War II. The book is concerned primarily with the basic principles and techniques of radar and is not intended to instruct in the operation of particular types of radar equipment. In this revision the general scope and purpose of the previous editions have been retained, but the subject matter has been extensively reorganized and rewritten. The chapters on antennas and propagation, transmitting and receiving systems, wave guides and cavity resonators, have been thoroughly revised and new material added on sweep generators, klystrons, switching operations in transmission-line circuits, and applications of synchros. Many new illustrations have also been included.

CHEMICAL ENGINEERING

BENEDICT MANSON AND CLARKE WILLIAMS editors

Engineering developments in the gaseous diffusion process. New York McGraw Hill Book Company Inc., 1949 127 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division II—Vol. 16) $2.00. 2223

Contents: Part 1, Special plant instruments and devices: Recording mass spectrometer for process analysis, by A. O. Nier and others. Recording ionization chamber for traces of radioactive gases, by A. O. Nier and others. Magnetic gear for torque transfer to closed system, by T. A. Abbott and J. K. Packard. Part 2, Vacuum engineering: Mass spectrometers for leak detection, by A. O. Nier and others. New developments in vacuum engineering, by R. B. Jacobs and H. F. Zuhr. Part 3, Development of heat-transfer equipment: Theory of heat and mass transfer in batch condensation of solids, by W. L. Thompson. Part 4, Absorption of UF and fluorine: Absorption in high-molecular-weight nonaqueous system—uranium hexafluoride in heavy oil, by R. Landau and others. Continuous fluorine-disposal plant, by R. Landau. The reaction of fluorine oxide with sodium hydroxide, by R. Simons and others. Subject index. Author index.

Note: A variety of devices and techniques developed in the course of the engineering design of gaseous diffusion plants for separating uranium isotopes are described in this book. Most of the inventions and developments have potential applications in other fields. An example is the magnetic gear which was developed for transferring motion through the wall of totally enclosed system. Literature references are included for some of the chapters. The book is addressed to graduate engineers.

BROWN, GEORGE GRANGER, AND OTHERS

Unit operations. New York John Wiley & Sons, Inc., 1950 611 p illus. 28 cm. $9 00 2224

Contents (abridged): Part I, Solids: Screening. Handling of solids. Part II, Fluids: The flow of solids through fluids. Flotation. Sedimentation. Transportation of fluids. Pumping and compressing. Gas flow at high velocity. Flow of fluids through porous media. Filtration. Centrifugation. Fluidization of solids. Part III, Separation by mass transfer—the ideal stage concept: Solid-liquid extraction. Liquid-liquid extraction. Vapor-liquid transfer operations. Adsorption. Part IV, Energy and mass transfer rates: Heat transfer. Evaporation. Crystallization. Agitation. Simultaneous heat and mass transfer. Nomenclature. Appendix. Index.

Note: Twelve authors, all members of the Faculty of Chemical and Metallurgical Engineering in the University of Michigan, have collaborated in writing this text in chemical engineering. Each of the chapters is a briefly written exposition of a specific topic. There is much emphasis on mathematical calculation in the solution of practical problems in chemical engineering, and the similarity of the basic principles of many processes is constantly stressed. The exposition is supplemented by numerous illustrations of present-day chemical apparatus and substantial bibliographies.

CHU JU CHIN, AND OTHERS

Distillation equilibrium data, by Ju Chin Chu Robert J Getty Llewellyn F Brennecke and Rajendra Paul. New York Reinhold Publishing Corporation, 1950 304 p. 24 cm. $7.00. 2225

Contents: Binary systems. Ternary systems. Multiple component systems. Bibliography. Index.

Note: A compilation of vapor-liquid equilibrium data which probably includes all of the data published through December 1948. Altogether 176 systems are covered, and full references are given to the sources of the data. The book will be especially useful to chemical engineers.

FLOSDORF EARL WILLIAM

Freeze-drying [drying by sublimation] New York Reinhold Publishing Corporation 1949 280 p. illus. 24 cm. $7.00. 2226

Contents: Introduction. Basic principles. Applications. Changes in products during desiccation from the frozen state and in storage. Equipment used for medical products. Equipment for foods. Appendices: List of U. S. patents. Sherwood's studies with penicillin. Data tables. Imbedding with acrylic plastic. Bibliography. Author index. Subject index.

Note: The drying of selected substances while they are in a frozen state has become important in chemical manufacturing. For example, certain biological materials such as blood plasma, vaccines, antibiotics, bacterial and viral cultures cannot be dried by ordinary methods, but they can be dried with little or no loss in potency by sublimation under vacuum. This book, by one of the leading workers in the field, states the basic theories, describes the chief applications and some of the important "know-how" and provides other useful information. It is addressed to research workers, manufacturers, and other persons with technical backgrounds. There are extensive bibliographies.

GROGGINS PHILIP HERKIMER, editor in-chief

Unit processes in organic synthesis. Fourth edition. New York McGraw Hill Book Company Inc. 1952 937 p illus. 24 cm. (McGraw-Hill chemical engineering series) $12.50 2227

Contents: Nitration, by P. H. Groggins. Amination by reduction, by P. H. Groggins. Diazotization and coupling, by H. E. Woodward. Halogenation, by P. H. Groggins and H. P. Newton. Sulfonation, by P. H. Groggins. Amination by ammonolysis, by P. H. Groggins. Oxidation, by L. F. Marek. Hydrogenation, by M. R. Fenske. Hydroformylation (oxo reaction), by M. Orchin and W. C. Schroeder. Esterification, by E. E. Reid. Hydrolysis, by E. J. Lloyd and W. F. Hamner. Polymerization, by W. P. Hohenstein and H. Mark. Alkylation, by R. N. Shreve. The Friedel-Crafts reaction, by P. H. Groggins. Name index. Subject index.

Note. (XXI*) A widely used textbook of chemical engineering techniques in manufacturing processes that involve organic syntheses. It covers basic principles, operating conditions and factors, typical plant equipment, and contains flow sheets. The information given on many points is detailed enough to make the book of interest to graduate chemical engineers. The previous edition appeared in 1947. In this edition there are many important changes including one completely new chapter.

GUMZ WILHELM

Gas producers and blast furnaces—theory and methods of calculation. New York John Wiley & Sons, Inc. 1950. 316 p illus. 21 cm. $9.00. 2228

Contents (abridged): Part one, Gas producers: Gasification reactions. Gas compositions at equilibrium. Gas composition at incomplete equilibrium. Applications of the nomographical method for associated problems. Mathematical treatment of gas-producer performance. Part two, Blast furnaces: Composition of gas in furnaces. Method of computation. Part three, Reaction kinetics. Appendix. Name index. Subject index.

Note: In this book the processes which take place in gas producers and blast furnaces are treated as problems in chemical engineering which can be solved largely by mathematical methods. These

is necessarily considerable discussion of the chemical sections, but the author's chief contribution is the presentation of the apparently complex purification process as one to which the concepts and techniques of physical chemistry and chemical engineering are applicable. The book is of interest primarily to engineers associated with the steel industry

INDUSTRIAL AND ENGINEERING CHEMISTRY

Modern chemical processes a series of articles describing chemical manufacturing plants By the editors of Industrial and Engineering Chemistry in conjunction with the technical staffs of the cooperating organizations. New York Reinhold Publishing Corporation, 1950 222 p. illus. 29 cm. $5.00 2229

Contents Contact sulfuric acid from sulfur Modern production of chlorine and caustic soda. Iodine from oil well brines. Continuous superphosphate production. Barium potassium chromate pigment. Fine chemicals from coal. Liquid fuel from coal. Synthetic methanol production. Alcohols by sodium reduction. Low temperature manufacture of chemical rubber Carotene and chlorophyll—commercial chromatographic production. Chloroquine manufacture. Paint and varnish manufacture. Petroleum base protective coatings. Drier soap manufacture Continuous distillation of gum turpentine. Selective extraction of vegetable oils with furfural. Solvent extraction of oil from soybeans. Phenolic resin glues for plywood. Oxidation of cellulose. Manufacture of basic refractory brick. Paving asphalt from California crude oil Citrus fruit processing. Index.

—— —— Volume II New York Reinhold Publishing Corporation, 1952 299 p. illus. 29 cm. $5.00. 2230

Contents. Chemicals from fats. Amyl compounds from pentane. Phenol by sulfonation. TNT into phloroglucinol. Commercial development of glyoxal. Bacitracin—product of biochemical engineering. Reagent grade chemicals Lithium and its compounds. Calcium cyanamide. Cyanides from the coke oven. Pioneer surfactant. Edible oils. Cane sugar refining Brewing Food yeast from sulfite liquor Modern winemaking. Platinum reforming of gasoline. Liquid fuels from oil shale. Modern sulfur mining. Sulfur from sour gases. Magnesia-base sulfite pulping Kraft pulp production. Kraft paper making. Rubber reclaiming. Index.

Note In these two volumes, which are the first of a planned series, forty-seven articles that appeared originally in the periodical *Industrial and engineering chemistry* beginning in February 1949 have been collected. Each article is a detailed and specific description of a present-day method of manufacturing the chemical product named in its title. In most instances the method followed in a specified plant is described fully with briefer descriptions of variations followed in plants of other manufacturers Some historical and economic information is included in most of the articles and all are supplemented by photographs, flow sheets, and lists of pertinent literature The chief aim of the work lies in its presentations of methods that are currently in use, thus they supplement the older and more theoretical material available in treatises. The publishers plan to issue an additional volume every two years.

LAUER, BYRON ELMER AND RUSSELL F HECKMAN

Chemical engineering techniques. New York Reinhold Publishing Corporation 1952 496 p. illus (part col d) 24 cm. $6.00. 2231

Contents (abridged) Section i, The assembly of materials: Interplant transportation. Intraplant transportation Storage of materials. Section ii, The preparation of materials for reaction Size reduction. Size classification. Section iii, The production and distribution of energy: Energy sources The storage, distribution and conservation of energy Section iv Conditions affecting the chemical reaction Measuring and proportioning materials. Mixing of materials. Reaction vessels. Section v The separation and purification of materials: Separation of solid from solid Separation of liquid from solid. Separation of gas from solid. Separation of solid from liquid. Separation of liquid from liquid Separation of liquid from gas. Separation of gas from gas. Section vi, Further treatment of products for sale, shipment, storage, or other use. Preparation of materials for marketing. Measurement of physical and chemical qualities. Packaging Index.

Note An unusual treatment in which methods and equipment for handling materials, measuring and proportioning them, separating them, and packaging them are covered rather than unit processes. The expository matter is practically all descriptive and almost devoid of mathematics and chemical formulas. Types of equipment are described in general and selected few are shown in the illustrations, but the authors have not attempted to describe particular makes or even typical installations. The book is suitable for use as a supplementary text in college courses and as a general survey for manufacturers and graduate chemical engineers. There are 100 figures but no literature references.

LEE, JAMES A.

Materials of construction of chemical process industries. New York McGraw Hill Book Company Inc. 1950 468 p. illus. 24 cm. (McGraw Hill chemical engineering series) $7.00. 2232

Note A handbook designed to aid chemical engineers in selecting materials for equipment used in the production and handling of corrosive substances. The arrangement of the book is alphabetical according to substance; for example, under B are found barium carbonate barium chloride, beer benzene benzaldehyde, benzoic acid, benzotrifluoride, etc. Under each substance most of the [illegible] is concerned with the material but in many cases there is also a brief outline of the manufacturing process together with references to one or more periodical articles or books where the manufacturing process is described more fully At the end of the book a directory identifies the trade-names of corrosion-resistant alloys and other materials, gives the manufacturers' name, and the chemical description. Much of the material has been drawn from *Chemical engineering* and its predecessor *Chemical and metallurgical engineering*.

LEVA, M AND OTHERS

Fluid flow through packed and fluidized systems By M Leva, M. Weintraub, M. Grummer M Pollchik, and H. H. Storch. Washington D C. Government Printing Office 1951 149 p illus. 26 cm. (United States. Bureau of Mines. Bulletin 504) Paper, $1.00. 2233

Contents: Introduction. Literature survey Pressure drop through packed tubes, turbulent flow: General correlation. Effect of surface roughness. Prediction of voids in packed tubes. Comparison between tower packings. Pressure drop through packed tubes, viscous flow: General correlation. Generalized pressure-drop equation. Shape-factor estimations. Fluidization of solids: Vesicular and nonvesicular particles. Fluidization of nonporous particles. Fluidization of [illegible]. Fischer Tropsch catalyst. Fluidization of mixed materials. Solid-liquid systems. Fluidization of porous material. Channeling. Fluidized beds. Summary of design equations. Nomenclature. Appendix (tables)

Note. The first five pages of this bulletin report the results of an extensive literature search which was made following the development of new processes for the production of synthetic liquid fuels. This search showed that considerable uncertainty existed in the correlation of the operating variables of these new types of converters with the pressure drops which could be expected through packed and fluidized systems. Since the pressure-drop correlations reported in the literature were found to be too inaccurate for use in calculating the energy required to pass fluids through packed beds, the original study reported in the remainder of the bulletin was carried out in order to develop correlations that would be suitable for the design of new equipment in which fluids are brought into contact with granular materials. To arrive at general relationships, systems were chosen that did not involve chemical reactions, and correlations are given only in terms of quantities that are ordinarily available from general process and design specifications.

MANTELL CHARLES LETNAM

Adsorption. Second edition. New York. McGraw Hill Book Company Inc. 1951. 634 p illus. 24 cm. (McGraw Hill chemical engineering series) $9 00 2234

Contents (abridged) The unit operation of adsorption. Theories of adsorption. Fuller's earth and activated clays. Aluminum oxide base materials. Bone char and related materials. Decolorizing carbons, water-treatment carbon. Gas-adsorbent carbons. Silica gel. [illegible]

exchangers. Magnesia base materials. Solvent recovery and concentration. Odor removal, air purification and recovery. Gas masks. Fractionation of liquid hydrocarbons. Fractionation of gases. Fractionation of ions. Adsorbents in refining of sugar and related substances. Water treatment. Adsorbents in medicine and pharmacy. Chromatographic adsorption. Inspection, specifications, and testing of adsorbents. Appendix. Index.

Note: ([illegible]) Adsorption, the concentration of gases, vapors, etc., on the surfaces of solids where they are held by surface forces, is employed in a wide range of industrial chemical processes. This standard book is devoted mainly to descriptions of adsorbents and discussions of the employment of adsorption and adsorbents in industrial chemical processes. It is of particular interest to chemical engineers, but parts are of interest to men in other fields such as air conditioning. In this edition there is much new material on industrial applications that have been developed since the first edition was prepared. Selected patents and papers are cited in footnotes.

Nachod, Frederick C, editor
Ion exchange, theory and application. New York Academic Press, Inc., 1949 411 p. illus. 24 cm. $9.50 2235

Contents: Introduction, by F C. Nachod. Ion exchange equilibria, by H. F Walton. The kinetics of fixed-bed ion exchange, by H. C. Thomas. Fundamental properties of ion exchange resins, by W C. Bauman. Ion exchange equipment design, by M. E. Gilwood. Ion exchange in water treatment, by C. Calmon. Multistage systems in ion exchange, by A. F Reid. Desalting sea water by H. L. Tiger and S. Sussman. Applications of ion exchange to the separation of inorganic cations, by J. Schubert. Ion exchange as a tool in analytical chemistry by W Rieman III. Metal concentration and recovery by ion exchange, by S. Sussman and F C. Nachod. Catalytic application of ion exchangers, by S. Sussman. The use of ion exchange adsorbents in biochemical and physiological studies, by M. Applezweig. The separation of amino acids by ion exchange chromatography by R. J. Block. Sugar refining and by-product recovery by A. B. Mindler. Ion exchange recovery of alkaloids, by N. Applezweig and F C. Nachod. Miscellaneous applications of ion exchange, by F K. Lindsay and D. G. Braithwaite. Appendix. Author index. Subject index.

Note: This volume is essentially a symposium, prepared by experts, on present-day applications of ion exchange in various branches of research and industry. Theoretical aspects of the subject are discussed at some length but the emphasis is upon methods, techniques, and equipment. References to periodical articles and patents are cited at the end of each chapter.

Perry, John Howard, editor
Chemical engineers' handbook, prepared by a staff of specialists. Third edition. New York McGraw Hill Book Company Inc., 1950 1942 p illus. 25 cm. (McGraw-Hill chemical engineering series) $17.00. 2236

Contents: Mathematical tables and weights and measures. Mathematics. Physical and chemical data. Physical and chemical principles. Flow of fluids. Heat transmission. Evaporation. General theory of diffusional operations. Distillation and sublimation. Gas absorption. Solvent extraction and dialysis. Humidification, dehumidification, and cooling towers and spray ponds. Drying. Adsorption. Mechanical separations. Size reduction and size enlargement. Mixing of materials. High pressure technique. Process control. Movement and storage of materials. Materials of construction. Fuels. Furnaces and kilns. Power generation and mechanical power transmission. Refrigeration. Plant location. Electricity and electrical engineering. Electrochemistry. Accounting and cost finding. Safety and fire protection. Index.

Note: ([illegible]) A standard reference handbook for chemical engineers, industrial chemists, executives of companies manufacturing chemicals, and students. The titles of the various sections are given above. The typical section is composed of several compact papers which cover theory, equipment, practices, and a range of technical data. In this edition the page size has been increased and the text is now printed two columns to the page. The new size permits a larger scale in the illustrations which is a definite advantage. The organization and scope are essentially the same but eight new sections have been added and four sections that appeared in the preceding edition have been dropped. Extensive revisions are evident in most of the sections carried over from the second edition.

Pierce David E
Chemical engineering for production supervision. Second edition. New York McGraw Hill Book Company Inc. 1950 290 p illus. 23 cm. (McGraw Hill chemical engineering series, S D Kirkpatrick, consulting editor) $5 00 2237

Contents: General principles of chemistry and physics. Transformation of energy. Heat transfer. Evaporation. Distillation. Drying. Flow of fluids. Absorption. Appendixes. Answers to problems. Index.

Note: ([illegible]) A book designed to serve chemical-plant production supervisors as a memory refresher, reference book, and guide. In it the essential facts and principles of the unit operations of chemical engineering are concisely presented with the mathematical treatment limited to the use of, rather than the derivation of, formulas. Illustrative examples included in each chapter show the way calculations may be made, and many unsolved examples are provided for practice in using these methods. The first seven chapters of this edition are the same except for minor emendations as the same chapters in the first edition ([illegible]). The eighth chapter entitled Absorption is new

Robinson Clark Shove, and Edwin R. Gilliland
Elements of fractional distillation. Revised and rewritten by E. R. Gilliland. Fourth edition New York McGraw Hill Book Company Inc., 1950 492 p. illus. 24 cm. (McGraw Hill chemical engineering series) $7.50 2238

Contents (abridged) Determination of vapor-liquid equilibria. Calculation of vapor-liquid equilibria. General methods of fractionation. Simple distillation and condensation. Rectification of binary mixtures. Special binary mixtures. Rectification of multicomponent mixtures. Extractive and azeotropic distillation. Batch distillation. Vacuum distillation. Fractionating column design. Fractionating column auxiliaries. Appendix. Index.

Note: ([illegible]) As in the previous editions of this standard text for advanced chemical engineering students, approximately equal attention is given to basic principles and to the application of these principles in the solution of distillation problems and the design of distillation apparatus. In this edition, however, more emphasis is placed on methods involving the calculation and use of vapor-liquid equilibria. Such topics as batch and vacuum distillation have been expanded to chapter length, and the detailed description of fractionating column design and performance now covers three chapters. The book as a whole has been doubled in size and so extensively rewritten as almost to constitute a new work.

Sherwood Thomas Kilgore and Robert Lamar Pigford
Absorption and extraction Second edition. New York McGraw Hill Book Company Inc. 1952 478 p illus 24 cm. (McGraw-Hill chemical engineering series, S D Kirkpatrick, consulting editor) $7 50 2239

Contents. Diffusion. Eddy diffusion. Transfer of material between phases. Simultaneous heat and mass transfer. Principles of the design of absorption equipment. Design principles for multicomponent systems. Gas absorption equipment. Performance of absorption equipment. Simultaneous absorption and chemical reaction. Solvent extraction. References. Index.

Note ([illegible]) A rather full treatment of two fundamental and important operations in chemical engineering. The emphasis is on fundamental notions and typical equipment rather than on specific applications. However, numerous applications are mentioned in passing. The book is primarily a text for upperclass students of chemical engineering, but some parts are full enough to be useful to graduate engineers. There is a bibliography of [illegible] references. This edition consists largely of material that did not appear in the original edition.

Treybal, Robert Ewald
Liquid extraction. New York McGraw Hill Book Company Inc., 1951 422 p. illus. 23 cm. (McGraw Hill chemical engineering series) $8.00 2240

Contents: Introduction. Liquid equilibria. Prediction of distribution. Choice of solvent. Diffusion and mass transfer. Methods of

calculation—stagewise contact with single solvent—stagewise contact with mixed and double solvents—continuous countercurrent contact. Equipment for stagewise contact. Equipment for continuous countercurrent contact. Liquid-extraction processes. Problems. Name index. Subject index.

Note: A treatise on the application of liquid extraction techniques to industrial operations. It is organized so that it may be used in courses offered to graduate students of chemical engineering. It is also suitable as survey of the subject for working chemists whose academic education did not include course in the subject. Basic principles and techniques are emphasized rather than details of particular applications and equipment. Even in the chapters on equipment the emphasis is on types rather than on specific installations. Numerous graphs and tables of engineering data are included. Statements in the text are key-numbered to the extensive list of references. The author is Professor of Chemical Engineering in New York University

VILBRANDT, FRANK CARL

Chemical engineering plant design Third edition. New York McGraw Hill Book Company, Inc., 1949 608 p. illus. 23 cm. (McGraw Hill chemical engineering series) $7.50. 2241

Contents: Introduction. Foundations. Drainage. Piping installation. Pumps and pumping. The building. Power and power transmission. Development of the design project. Flow diagrams. Selection of process equipment. Plant layout and elevation. Locating the chemical plant. Preconstruction cost estimating. Appendices. Index.

Note: (1444) A well-known work used as text in engineering college courses and as desk book by practicing chemical engineers. It is introductory to the subject of plant design but it is intended for readers who have fundamental knowledge of chemical engineering. Although important additions and revisions were made in preparing the present edition, the greater part of the text is unchanged. Approximately half of the increase in pages is accounted for by major expansion of the chapter on estimating of cost before construction. Other changes are widely scattered throughout the work and have to do with numerous topics such as the size of the steam pipes, safety and the design of pilot plants. The lists of collateral reading have been revised.

APPLIED CHEMISTRY

GENERAL

BENNETT H., editor-in-chief

The chemical formulary a collection of valuable, timely practical, commercial formulae and recipes for making thousands of products in many fields of industry Volume IX. New York. Chemical Publishing Company Inc., 1951 648 p. 22 cm. $7.00 2242

Contents (abridged) Adhesives. Cosmetics and drugs. Ceramics, glass, and cement. Colloids. Farm and garden products. Food. Ink and marking compounds. Insecticides, fungicides, and weed killers. Leather, skins, and furs. Lubricants and oils. Metals and their treatment. Paint, varnish, lacquer and other coatings. Paper. Photography. Polishes. Pyrotechnics and explosives. Rubber resins, plastics, and waxes. Soaps and cleaners. Textiles. Tables. Trade-mark chemicals. Chemicals and supplies: where to buy them. Sellers of chemicals and supplies. Index.

Note: (1933) The present volume of well-known reference set contains formulas and recipes that have not appeared in the previous volumes. Of interest to small manufacturers, industrial chemists, and also to the amateur mechanic looking for such information as how to plate plastics.

ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY edited by Raymond E. Kirk and Donald F Othmer Volumes 3–9 Carbon to penicillin. New York The Interscience Encyclopedia, Inc., 1952 944 p illus. 27 cm. $25.00 per volume. 2243

Note: (1938*) A valuable reference work, Volume 1 of which was published in 1947 Originally announced for completion in ten volumes, it is now scheduled for completion with Volume 14. Volumes 3 to 9 continue the pattern set by the earlier volumes, and contain entries which range in length from short definitions to long encyclopedic articles, most of which are signed and include selective but extensive bibliographies. A few of the longer, more important articles in this run of volumes are: Catalysis, 26 p.; cement products, 43 p.; chlorine and chlorine compounds, 100 p.; cyanides, 67 p.; dairy products, 67 p.; diffusion, 37 p.; dyes, 119 p.; fatty acids, 128 p.; hormones, 73 p.; indexes, 41 p.; literature of chemical technology 46 p.; and paint, 34 p.

HAYNES WILLIAMS

American chemical industry Volume IV The merger era 1923–1929 Volume VI, The chemical companies. New York D Van Nostrand Company Inc., 1948–49 2 v 24 cm. $12.00 per volume. 2244

Contents (abridged) Volume IV Part one, The booming twenties: The return to normalcy. The state of trade. American chemical mergers. Foreign cartels and trusts. Part two, Inorganic chemicals: Contact acid from brimstone. Nitric acid from ammonia. Phosphorus compounds. Electrolytic competition in alkalies. Other industrial chemicals. Part three, Organic chemicals: Alcohol under prohibition. Wood chemicals meet synthetic competition. Solvents lead organic progress. Crudes and intermediates. American dyes build firm base. Part four, Medicinal and other fine chemicals: Coal-tar medicinal chemicals. The fine chemicals. Drug products and pharmaceuticals. Scents and flavors—synthetic and natural. Part five, The consuming industries: Fertilizers. New pest-control chemicals. From plastics to resins. Oils and pigments. Rayon and other textiles. Petroleum and tetraethyl lead. Chemicals in industry. Broadening chemical horizons. Appendix. Book titles. Company and personal name index. Subject index. Volume VI Company histories: Abbott Laboratories. Air Reduction Company Inc. American Aniline Products, Inc. American Cyanamid Company. American [illegible] Chemicals Corporation. J T Baker Chemical Company. Binney & Smith Company. Burroughs Wellcome & Co. (U.S.A.) Inc. Celanese Corporation of America. Colgate-Palmolive-Peet Company. The Davison Chemical Corporation. Durez Plastics & Chemicals, Inc. Eaton Chemical and Dyestuff Company. Fisher Scientific Company. General Ceramics and Steatite Corporation. General Electric Company. Johns-Manville Corporation. Masonite Corporation. National Dairy Research Laboratories, Inc. Pittsburgh Coke & Chemical Company. The Quaker Oats Company. Shell Development Company. Union Carbide and Carbon Corporation. United States Rubber Company. [illegible] & Company Inc. Name index. Products index.

Note. (1940*) These volumes form part of comprehensive history begun in 1945 with volumes II and III, and planned for completion in six volumes. The material is based both on published data and on first-hand information gained from men who took part in the events described. Volume IV follows the pattern set by volumes II and III, and includes in the appendix much statistical data on prices, production, imports, and tariffs. Also included are portraits of leading figures and extensive bibliographies. Volume VI departs from the chronological arrangement of the previous volumes, and provides brief histories of 219 companies which have played leading part in the development of the American chemical industry. Volumes and covering the periods 1800–1910 and 1930–1939 are in preparation.

LESSER, MILTON A.

Modern chemical specialties. New York Mac Nair Dorland Company, 1950 514 p. illus. 24 cm. $7.25 2245

Content (abridged) Detergents and cleaners: Dishwashing detergents. Industrial hand cleaners. Medicated soaps. Dog soaps. Carpet, rug and upholstery cleaners. Cleaning and polishing cloths. Paint, varnish and wall paper cleaners. Rust removers. Polishes: Furniture polishes. Glass cleaners, polishes and antimists. Aluminum cleaners. Metal polishes. Auto polishes. Floor care products: Floor soaps and cleaners. Wax floor polishes. Floor oils and sweeping compounds. Crack fillers. Textile products: Laundry bluings. Laundry starches. Laundry sours. Laundry bleaches. Mildew preventatives. Moth products. Products for leather care: Leather cleaners and renovators. Saddle and leather soaps. Colored shoe polishes. Industrial and household specialties: Washroom sanitation specialties. Cooling system cleaners. Boiler compounds. Paint and varnish removers. Water softeners. Air deodorizers. Index.

Note: A practical compendium of information about the manufacture of household and industrial products of the kinds mentioned in the chapter titles. In each section there is generalized discussion of the nature and uses of the class of product, discussion of some aspects of its manufacture, and variety of formulas. Literature references are provided for each chapter.

MCCORD CAREY PRATT, AND WILLIAM N WITHERIDGE

Odors physiology and control. New York McGraw-Hill Book Company Inc., 1949 405 p. illus. 23 cm. $7.00 2246

Contents: The anatomy of the olfactory system. The physiology of the olfactory sense. Chemical constitution and odors. Odor classification. Odor detection and measurement. The pathology and perversions of the olfactory system. The influence of odors on health and comfort. Human body odors in health. Human body odors in disease. Odors in the diagnosis of disease. Household odors. Odors of wastes and foods. Industrial odors. The offensive trades. Air conditioning and odors. Chemical and physical destruction of odors. Odor masking. Odor cancellation and counteraction. The sorption of odors. Odors as warning agents. Odor repellents and odor attractants. The making of an odor survey. The legal aspects of odor nuisances. Bibliography. Index.

Note: In the main this substantial work is concerned with offensive odors, and the subject is treated from the viewpoint of persons concerned with ventilation of buildings, public health, etc.

However allied topics such as the use of [illegible] as means of [illegible] in [illegible] emergencies are included. There is also [illegible] able amount of discussion of the use of chemical agents in the control of human body odors. Although comprehensive and written in the style of monograph, the work is readable and the presentation of facts is sometimes flavored with humor. The bibliography runs to 115 pages and is classified though not annotated. It includes more than seven pages of citation of legal cases involving odors.

MANTELL, CHARLES LETNAM
Industrial electrochemistry Third edition New York McGraw Hill Book Company, Inc., 1950. 781 p illus. 23 cm. (McGraw Hill chemical engineering series) $9 00. 2247

Contents (abridged) Part I, Theoretical electrochemistry: Electrolytic dissociation and conductance. Electromotive force and energy relations. Part II, Technical electrochemistry: Electrochemical analysis. Electrolytic reduction and oxidation. Corrosion. Colloid electrochemistry. Primary cells. Rectifiers and lightning arresters. Part III, Electrolytic: Metal deposition and solution. Electroplating and electroforming. Electrorefining of metals. Electrolysis of alkali halides and sulfates. Electrolysis [illegible] fused salts. Part IV Electrothermics: Electric furnaces for metal making. Metallic electrothermal products. Calcium carbide and cyanamide. Nonmetallic electrothermal products. Part [illegible] Electrochemistry of gases Electrical discharges in gases. Electronics. Part VI, Engineering Materials of construction. Power generation and economics. Appendix. Name index. Subject index.

Note. (1951) An established text and reference book suitable for its treatment of electrochemistry as [illegible] branch of chemical engineering. The basic theories are covered in the first eighty pages. The remainder of the book is devoted to the industrial processes in [illegible] electrochemistry plays [illegible] part. The inclusion of such topics as corrosion and lightning arresters indicates the breadth of view of the field taken by the author. There are no new chapters in this edition, but matter has been added throughout the book, usually in the form of new paragraphs. Additions have been made to the bibliographical footnotes, and there [illegible] many new illustrations.

MELLAN IBERT
Industrial solvents Second edition New York Reinhold Publishing Corporation 1950 758 p. illus. 24 cm. $12.00. 2248

Contents The nature of solution. Solvents, latent solvents, nonsolvents. Vapor pressure, evaporation rate, boiling point. Viscosity. The industrial application of solvents. Safe handling of solvents. Hydrocarbon solvents. Halogenated hydrocarbons. Nitroparaffins. Amines. Alcohols. Furfural. Ketones. Acids. Ethers. Esters. Selected bibliography. Author index. Subject index.

Note (1951) This comprehensive work is [illegible] basic reference tool in chemical manufacturing. It contains in textual, graphical, and tabular form [illegible] vast amount of information regarding the physical and chemical properties and applications of commercially useful solvents. Extensive rewriting and the inclusion of new data account for almost 300 additional pages in this edition. More specifically the former appendix on nitroparaffins has been expanded to chapter length; there are new chapters on amines and furfural, and the chapter on alcohols has been considerably enlarged. Chapter references have been brought up to date and an extensive bibliography has been added.

RIEGEL EMIL RAYMOND
Industrial chemistry an elementary treatise for the student and general reader with the support of a large number of collaborators Fifth edition. New York Reinhold Publishing Corporation 1949 1015 p illus. 24 cm. $8.00 2249

Contents (abridged) Sulfuric acid. Nitric acid. Salt, hydrochloric acid, bromine. Sodium sulfide, sodium hyposulfite. Caustic soda and chlorine. Synthetic nitrogen products. Phosphates. Fertilizers. Portland cement. Ceramic industries. Fuels. Chemical utilization of wood. Industrial gases. Processes based on the activity of yeasts and bacteria. Synthetic textile fiber. Sugars. Synthetic and semi-synthetic organic chemicals. Manufacture of dyes. Animal and vegetable oils, fats, and waxes. Pigments, paints. Soap, synthetic detergents. Chemical explosives. Synthetic resins. Photographic films, plates, and papers. Insecticides and fungicides. Rubber. Appliances used by the chemical engineer. Pig iron. Steel. Copper lead, zinc, tin, mercury. Gold, silver platinum, radium, uranium, thorium, and cerium. Appendix. Index.

Note (1953) As in earlier editions of this standard work, [illegible] range of information is included on the major chemical industries and the major industrial chemicals. The chemical engineering aspects are stressed, but there is also considerable information on the economic aspects. In this edition the chapter headings and general scheme of the book are unchanged from the 1942 edition. However, the many advances in industrial chemistry during World War [illegible] made extensive revisions necessary and many of the chapters have been radically changed. Among these are the chapters on glass, water and sewage, sugar, petroleum, and photography. Some of the material which appeared in the fourth edition was deleted. As in earlier editions each chapter is accompanied by [illegible] list of references to the literature.

SNELL, FOSTER DEE, AND CORNELIA T SNELL
Chemicals of commerce. Second edition. New York D Van Nostrand and Company Inc., 1952 587 p. 22 cm. $6.50. 2250

Contents Introduction. Inorganic acids. Bases or alkalies. Sodium salts of inorganic acids. Potassium salts of inorganic acids. Organic [illegible] compounds of sodium and potassium. Ammonium and lithium compounds. Calcium compounds. Barium, strontium and magnesium compounds. Compounds of nickel, cobalt, manganese and zinc. Compounds of aluminum, chromium and iron. Arsenic, antimony [illegible] and tin. Copper cadmium and bismuth. Lead, silver [illegible] and mercury. Miscellaneous metals and compounds. Carbon and [illegible] cellulosic materials with their esters and related compounds. Hydrocarbons, other than those from petroleum, and their simple halogen derivatives. Petroleum hydrocarbons and related products. Alcohols and mercaptans. Phenols and their derivatives. Aldehydes and ketones and their derivatives. Organic acids and closely related [illegible] compounds. Amines, nitro compounds, and various organic nitrogen compounds. Organic dye derivatives. Esters. Fats and fatty oils. Waxes. Ethers. [illegible] Tanners, lakes and pigment colors. Natural plant and animal [illegible] Extracts of natural products. Alkaloids, glucosides, and [illegible] Essential oils and oleoresins. Natural gums, resins and balsams. Synthetic resins and synthetic [illegible]. Carbohydrates. [illegible] Vitamins, sterols, antibiotics and hormones. Appendix.

Note A reference book of general and technical information on chemicals of commercial importance. Miscellaneous materials such as borax lumber are described as to chemical nature, commercial grades, and uses. Chemicals of more precise composition are described in terms of chemical properties, solubility, method of preparation, and chief uses. The descriptions range from [illegible] few lines to half [illegible] page in length. The book is addressed to purchasing agents and other persons who need commercial and practical information rather than to chemists. The lack of an index hampers somewhat the use of the book as [illegible] quick reference manual.

STORCH HENRY HERMAN AND OTHERS
The Fischer Tropsch and related syntheses including a summary of theoretical and applied contact catalysis. By Henry H. Storch, Norma Golumbic and Robert B Anderson. New York John Wiley & Sons, Inc., 1951. 610 p illus. 23 cm. $9 00. 2251

Contents Structure and reactivity of hydrogen, carbon monoxide [illegible] iron, cobalt, and nickel and the thermodynamics of the hydrogenation of carbon monoxide and related processes. An introduction to heterogeneous catalysis. Development of Fischer-Tropsch catalysts. Fischer-Tropsch process development. Processes related to the Fischer-Tropsch. Kinetics and reaction mechanism of the Fischer-Tropsch synthesis. Name index. Subject index.

Note The synthesis of aliphatic hydrocarbons from carbon monoxide is [illegible] chemical process of great potential use. This book is [illegible] substantial addition to the literature of the subject. It is based primarily on investigations of German progress and practice in the field that were made by teams of British and American investigators just after the close of World War II. Essentially it is [illegible] digest of papers pertaining to the subject that were obtained in Germany by the investigating teams. This material has been supplemented to some extent by the results of work done in the United States of America in more recent years. The authors are all associated with the Office of Synthetic Liquid Fuels of the United States Bureau of Mines. The book is addressed to industrial chemists and chemical engineers.

PLASTICS

SCHILDKNECHT CALVIN EVERETT

Vinyl and related polymers, their preparations properties, and applications in rubbers, plastics, fibers and in medical and industrial arts. New York John Wiley & Sons Inc. 1952 723 p. illus. 24 cm. $12.50. 2252

Contents: Styrene polymerization. Styrene copolymerization. Styrene derivatives and related polymers. Methacrylic and acrylic ester polymers. Acrylonitrile, acrylic acid and related polymers. Polymers from vinyl acetate and related monomers. Vinyl chloride polymers. Vinylidene chloride and fluorovinyl polymers. Ethylene high polymers and copolymers. High polymers and copolymers of isobutylene. Vinyl ether polymers. Sulfur-vinyl compounds. Nitrogen-vinyl polymers. Vinyl ketones and miscellaneous polymers. Appendix: Abbreviations of publications frequently cited. Companies and organizations cited. Dates of British, French, German and U. S. patents. Index.

Note: The compounds discussed in this book include not only many of the well-known plastics but also ion exchange resins, synthetic fibers, *finishing materials, and adhesives. The treatment is* organized in families or groups as indicated by the chapter titles. Each chapter is mainly an organized critical digest of the pertinent literature, with references to the original publications. Both patents and Allied Intelligence reports were included in the surveyed literature. European and U. S. A. trademarks and names are mentioned at appropriate points and are included in the index.

SIMONDS, HERBERT RUMSEY, AND OTHERS

Handbook of plastics by Herbert R. Simonds Archie J Weith and M. H. Bigelow Second edition. Based in part on first edition by Herbert R. Simonds and Carleton Ellis. New York D Van Nostrand Company Inc., 1949 1511 p. illus. 24 cm. $25.00. 2253

Contents: Survey of the industry. Properties of plastics. Commercial materials. Primary ingredients. Characteristics of the various plastics. Textile fibers. Rubbers and elastomers. Natural resins. Films and sheetings. *Laminates and plywoods.* Coatings. Adhesives. Manufacturing processes. Plant equipment. Processing and fabricating. Finishing operations. Molds. The chemistry of plastics. Analytical methods. Applications. Designing molded parts. Operating practice. Choice of plastic. Cost accounting in the industry. Patents in plastics. World plastics. Bibliography. General index.

Note: (1919) A comprehensive reference book prepared under the auspices of an advisory committee composed of leading figures in the plastics manufacturing and fabricating industries. Its purpose and scope have not been materially changed in this edition, but it has been extensively rewritten and expanded. All of the chapters have been revised—some of them very substantially—and new chapters on adhesives, cost accounting, the plastics industry throughout the world, and patents have been added. The bibliography, glossaries, lists of trade-marks and names, and the extensive tabulations of technical data have all been revised.

CERAMICS

KOENIG JOHN HENRY AND W H. EARHART

Literature abstracts of ceramic glazes. Philadelphia College Offset Press, 1951 395 p. 24 cm. $7.50 2254

Contents: American. Journal of the American Ceramic Society. Bulletin of the American Ceramic Society. Transactions of the American Ceramic Society. Ceramic Industry. Ceramic age (and Ceramist). British: Transactions of the British Ceramic Society. Pottery gazette. Foreign publications. Berichte Deutsche keramische Gesellschaft. Sprechsaal. Keramische-Rundschau. Tonindustrie-Zeitung. Keramos. Ceramique. Miscellaneous foreign and American publications. Transactions of Indian Ceramic Society. Journal, Canadian Ceramic Society. General. National Bureau of Standards. Engineering experiment station publications. Patents. Reference books. Dinnerware bibliography. China specifications. List of references and periodicals. Index.

Note: (1942) A review of the literature of glazes through 1950. As in the previous edition (1942) papers are abstracted in varying lengths depending on their value and on their general accessibility but all important claims, successful glaze formulas, and practices are included. *Each of the sixteen periodicals listed above is treated* separately with the abstracts arranged chronologically beginning with the most recent. There is a subject index but no author index.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON CHEMICAL DATA FOR CERAMISTS

Data on chemicals for ceramic use, formulas, molecular weights, colors, crystal forms, densities refractive indices, melting points, boiling points transition points, decomposition temperatures. Based on report of the Committee on Chemical Data for Ceramists, Division of Chemistry and Chemical Technology National Research Council. Alexander Silverman, chairman. Pittsburgh, Pa. *Published by the University of Pittsburgh for* the National Research Council, National Academy of Sciences Washington, D C. 1949 193 p. 23 cm. (National Research Council. Bulletin Number 118 June 1949) Paper $5 00. 2255

Note: The scope of this work is indicated by the title. The arrangement is alphabetical by names of elements and compounds. Source articles are cited for the data, and the main part of the work is supplemented by an extensive bibliography. Data published in the literature from 1943 to May 1949 have been added in this edition. Citations of the articles have been added to the bibliography

NORTON FREDERICK HARWOOD

Elements of ceramics. Cambridge Mass. Addison Wesley Press, Inc. 1952 246 p illus. 25 cm. $6.50. 2256

Contents: Clay minerals. Origin and occurrence of clays. Properties of clays. Silica and feldspar. Magnesite, lime, dolomite, and chromite. Other nonclay minerals. Mining and treatment of the raw materials. Flow properties of ceramic pastes and slips. Plastic masses. Casting slips. Forming methods. Drying of ceramic ware. Thermochemical reactions. Types of ceramic bodies. Thermochemical changes in clays and bodies. Kilns and settings. Glassy state. Glasses. Glazes. Enamels on metal. Color formation in glasses and glazes. Ceramic stains and colors. Decorative processes. Cements and plasters. Appendix. Index.

Note: An introductory book but a substantial one. It is well organized in short chapters that are supplemented by excellent illustrations and well-chosen references. The appendix contains a variety of information, from detailed directions for constructing small *kilns to calibration data for thermocouples. The work is suitable for* use in introductory college courses, as a desk reference book in the libraries of potteries, and as a source of information for advanced students.

PARMELEE, CULLEN WARNER

Ceramic glazes Second edition edited and revised by E D Lynch and A. L. Friedberg. Chicago Industrial Publications, Inc., 1951 322 p. illus. 24 cm. $8.00 2257

Contents: Definition of glazes. Glaze materials. Calculations. Mixing and milling. Application. Conversion of the batch to the glaze. Leadless glazes. Fritted glazes. Raw lead glazes. Engobes, slips, and underslips. Underglaze and overglaze colors. Glaze defects. Index.

Note: (1975*) A standard comprehensive treatise designed for practical use in the ceramic industries. The first edition appeared in 1948 and contained the same number of pages. The revisions in the present edition are not extensive, however, some important information has been added and detected errors have been corrected. Apparently the type for a considerable number of pages was reset. Before his death the author was associated with the Department of Ceramic Engineering of the University of Illinois and the revisers of the second edition are associated with the same school.

PETROLEUM CHEMISTRY

AMERICAN CHEMICAL SOCIETY

Progress in petroleum technology a collection of the papers presented at the Symposium on Twenty Five Years of Progress in Petroleum Technology held by the Division of Petroleum Chemistry of the American Chemical Society at the Diamond Jubilee meeting in New York, September 3 to 7 1951 Symposium chairman Robert E. Wilson. Washington D C. American Chemical Society 1951 392 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. five) Cloth $5 00 paper, $3.00 2258

Contents. Scope of the symposium, by R. E. Wilson. The mechanism of catalytic cracking, by B S. Greensfelder Catalytic cracking in fixed- and moving-bed processes, by D R. Ardern and others. Fluid catalytic cracking process, by E. V Murphree. Intermittent and fixed catalytic reforming of naphthas, by H. G. McGrath and L. R. Hill. Fluid hydroforming, by E. V Murphree. Comparison of platforming and thermal reforming, by V Haensel and M. J. Sterba. Development of reforming catalysts, by M. J Fowle and others. Polymerization of hydrocarbon gases to motor fuels, by P A. Mavity and L. M. Henderson. Commercial alkylation of isobutane, by A. V Mrstik and others. Isomerization, by E. C. Gunness. Synthesis of liquid fuels from natural gas, by J. H. Arnold and P C. Keith Liquid fuels from coal and oil shale, by H. H. Storch. Desulfurization and sweetening, by T Tait. Dewaxing and deasphalting, by W P Gee and H. H. Gross. Solvent extraction in the petroleum industry by G. C. Gester Jr Petroleum distillation, by W E. Bradley and G R. Lake. Internal combustion engine fuels, by R. E. Albright. Tetraethyllead, by G Edgar Petroleum lubricants, by R. J. S Pigott and H A. Ambrose. Domestic fuel oil, by J R. Hill. Natural gas liquids, by B R. Carney Asphalts and waxes, by E C. Hughes and H. F Hardman. Petroleum coke and coking, by C L. Thomas. Aliphatic chemicals, by G. A. Cullen and A. Jonard. Aromatics from petroleum, by R. M. Love and R. F Pinnelp. Elastomers and plastics, by W B Reynolds and W W Crouch. Synthetic detergents from petroleum, by W K. Griesinger and J A. Nevison. Composition of petroleum, by F D Rossini and B. J Mair Relation of properties to molecular structure for petroleum hydrocarbons, by C. E Boord. Physical chemistry in the petroleum industry by B H. Sage. Analyses of petroleum, by H. Levin

Note: Many of the papers in this collection cover concisely advances made during the past 25 years, while others describe the current status of specific area of petroleum technology Literature references accompany each paper The papers are original and their authors include many contemporary leaders in petroleum research.

BONDI ARNOLD AARON

Physical chemistry of lubricating oils. New York Reinhold Publishing Corporation 1951 380 p. 24 cm. $10 00 2259

Contents: Pressure-volume-temperature (P V T) properties. Rheology Surface phenomena. Optical and electrical properties. The hydrocarbon type analysis of lubricating oils. Phase equilibria. Reaction kinetics. Synthetic lubricants. Index.

Note. An authoritative survey of the present status of the physical chemistry of the hydrocarbons used chiefly for lubrication. The main emphasis is on the relation between chemical structure and physical properties and on the means for measuring these properties. There is also some discussion of the chemical reactions of lubricating oils and greases with such substances as oxygen and sulfuric acid since these reactions affect the properties that are important in lubrication. The chapter on synthetic lubricants—that is, compounds designed as substitutes for the traditional petroleum products—will be of considerable interest to both lubrication chemists and machine designers. The text is supplemented by much tabulated data, and each chapter is accompanied by fairly extensive bibliography that includes patents as well as books and articles. The author is associated with the Shell Development Company

FARKAS, ADALBERT, editor

Physical chemistry of the hydrocarbons. Volume 1. New York Academic Press, Inc., 1950 453 p illus. 24 cm. $8.50. 2260

Contents: The chemical bond in hydrocarbon molecules, by G. W Wheland. The molecular structure of hydrocarbons as determined by spectroscopy and electron and X-ray diffraction, by M. K. Wilson. Mass spectroscopy in hydrocarbon analysis, by J. J. Mitchell. Optical properties of hydrocarbons; infrared absorption, raman, and ultraviolet absorption spectroscopy, by N D. Coggeshall. Optical methods of hydrocarbon analysis, by N D Coggeshall. Electrical properties of hydrocarbons, by A. Gemant. Solvent extraction of hydrocarbons; solubility relations between liquid hydrocarbons and other liquids, by A. W Francis. Solid-liquid equilibria of hydrocarbons, by M. R. Cines. Chemical thermodynamic equilibria among hydrocarbons, by F D Rossini. Author index. Subject index.

Note A systematic presentation of physical and chemical knowledge pertaining to the properties and behavior of the hydrocarbons. It is addressed primarily to graduate chemists. Of the nine authors represented in the present volume, seven are associated with industrial research; nevertheless, their papers deal more with basic than applied knowledge and techniques. There are numerous tabulations of physico-chemical data, and each paper is supplemented by an extensive bibliography Volume II which will complete the work will be devoted to such matters as density surface tension, viscosity critical properties, optical activity and chemical manipulation of hydrocarbons. The work is of interest not only to the petroleum industry itself but to all industries based upon hydrocarbons.

HUNTINGTON RICHARD LEE

Natural gas and natural gasoline. New York McGraw Hill Book Company Inc., 1950 598 p. illus. 23 cm. (McGraw Hill chemical engineering series) $8.00. 2261

Contents. Introduction. Estimation of gas and gasoline reserves. Elements of plant location and design. Gathering of raw gas and return of residue gas. Determination of cycling efficiencies in the Cotton Valley (Louisiana) gas-condensate reservoir. Elements of natural gasoline processing. Absorption. Distillation and fractionation. Gas dehydration. Storage and transportation. High-pressure pipe-line research. Appendixes. Index.

Note An engineering college textbook which offers broad introduction to the natural gas industry with emphasis on the phases which are primarily of interest to chemical engineers. The processes of removing natural gasoline from the raw gas are covered and so are the other aspects of natural gas processing. The chapters on storage and transportation and high pressure pipe line research are together 125 pages long and present fairly inclusive survey of basic engineering principles. Aside from its intended use in colleges, the book should be of interest to graduate engineers whose formal education did not include course in natural gas but find themselves in need of information about the field.

MAXWELL J B

Data book on hydrocarbons application to process engineering. Second printing. First published February 1950. Reprinted March 1951 New York D Van Nostrand Company Inc., 1951 259 p. illus. 26 cm. $5.00. 2262

Content Physical data: Physical constants. Characteristics of petroleum fractions Molecular weight. Vapor pressure. Fugacity Critical properties. Thermal properties. Density Viscosity Combustion. Unit operations: Flow of fluids. Flow of heat. Equilibrium flash vaporization. Fractionating towers. Conversion factors. Index.

Note Earlier editions of this work produced by the Standard Oil Development Company proved of such value to technical personnel in the Company and its affiliates that the Company decided to make it available for general use. It contains (1) basic data on hydrocarbons and petroleum fractions, (2) methods of applying these data to process engineering, including illustrative examples and some fundamental theory and (3) applications of few of the unit operations of chemical engineering used extensively in the petroleum industry The presentation is largely in the form of graphs and tables.

MEYER, ERICH

White mineral oil and petrolatum. New York Chemical Publishing Co., Inc. 1950. 135 p. illus. 22 cm. $4 75 2263

Contents: Technical aspects of white mineral oil and petrolatum. Applications of white mineral oil and petrolatum. Methods of testing white oil and petrolatum. Shipping and handling of white mineral oil and petrolatum. Index.

Note: The heart of this rather short reference book is the second chapter in which data are provided on the uses of petrolatum (including white mineral oil) in a wide range of industries and products. Typical of the arrangement of this part is the matter presented under "Household-type insecticides." Here the variety of oil and its use are stated briefly; the ingredients and proportions of typical sprays are given; then the requirements to be met by the oil and the requirements expressed in standard tests taken from Army and Navy specifications are tabulated.

NELSON WILBUR LUDINE

Petroleum refinery engineering. Third edition. New York McGraw Hill Book Company Inc., 1949 830 p. illus. 24 cm. (McGraw Hill chemical engineering series S. D Kirkpatrick, consulting editor) $10.00. 2264

Contents: Chemical engineering and petroleum engineering. History and development of refining. Composition of petroleum. Refinery products and test methods. Evaluation of oil stocks. Physical properties of petroleum oil. Introduction to processing. Refinery corrosion and metals. Refinery and distillation processes. Auxiliary processes and operations. Conventional chemical treatments. Solvent treating or extraction processes. Dewaxing. Fluid mechanics. Combustion. Vaporization and condensation. Fractionation and towers. Heat transfer and exchangers. Tube-still heaters. Thermal cracking and decomposition processes. Rebuilding hydrocarbons. Catalytic cracking. Natural gas and natural gasoline. Economics of design. Typical design calculation. Appendix. Author index. Subject index.

Note. (3030) In its third edition since 1936 this work has been almost completely rewritten. It contains about one-third more material than was in the second edition. It is now more than ever a reference book for practicing engineers. Most of the fundamental material which is included in general textbooks has been omitted and its place taken by discussion of current processes and practices in petroleum refining. All of these which are of interest in the design of refineries are discussed in fair detail. There are both footnote references and extensive chapter bibliographies.

SMITH N A. C AND OTHERS

The Bureau of Mines routine method for the analysis of crude petroleum (in three parts) I. The analytical method, by N A. C. Smith, H. M. Smith, O C. Blade, and E L. Garton. Washington, D C. Government Printing Office, 1951 82 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 490) Paper $0.50. 2265

Contents: Introduction. Distillation (Bureau of Mines routine method) Distillation at atmospheric pressure. Distillation at reduced pressure (40 mm. of mercury) Treatment of unusual crude-oil procedures. The analytical report. Sampling and sample handling: Sample information. Sample inspection and identification. Property determination. Specific gravity Viscosity Sulfur. Color. Cloud test. Pour point. Carbon residue. Aniline point. Preparing the report of an analysis: Approximate summary. Correlation index. Outline of Bureau of Mines routine method for the analysis of crude petroleum. References. Appendix: Bibliography of reports containing analyses of crude oils by Bureau of Mines routine method. Finding list for crude-oil analyses.

Note: The method of analysis described in this bulletin has been used in analyzing thousands of samples of crude oil since it was developed during the period 1915 to 1920. It was first described in Bureau of Mines Bulletin 207 1922, of which the present bulletin is largely a revision. Details of the procedure, a description of the apparatus, and brief descriptions of ancillary methods are all included. The appendix includes a bibliography of reports which contain analyses of crude oils by this method and a finding list of analyses arranged by oil fields in the respective states of the United States and in other countries.

WILEY, J L., AND H. C ANDERSON

Bibliography of pressure hydrogenation. Washington, D C. Government Printing Office, 1930–52 646 p. 26 cm. (United States. Bureau of Mines. Bulletin 485) Part I, o.p. Part II, paper $1.00 Part III, paper, $0.25 2266

Note: This work contains abstracts of the world's technical literature bearing on the history, development, and commercial application of the Bergius and related processes for the hydrogenation, under greater than atmospheric pressures, of liquid and solid carbonaceous materials such as coal, lignite, their distillation and extraction products, pitches and tars, and petroleum and its distillation residues. Part I contains 2301 abstracts of journal articles; Part II, 3348 abstracts of patents, and Part III contains a subject index to Parts I and II and a numerical patent index.

PAINT AND VARNISH

BIDLACK, VERNE C. AND EDGAR W FASIG editors

Paint and varnish production manual. New York John Wiley & Sons, Inc., 1951. 288 p. illus. 24 cm. $6.50 2267

Contents: Physical facilities. Paint plant. Varnish plant. Products. Engineering. Manufacturing operations. Personnel. Factory cost accounting. Research, development and control. Fire protection, safety and health. Index.

Note: In this book—sponsored by the Federation of Paint and Varnish Production Clubs—plant layout, equipment, materials handling, and many other topics of interest in the organization and management of plants for the manufacture of paint and varnish are discussed by experts. The work appears to be addressed to management and production staff of small plants, but there is material in it that is of potential interest to the personnel of larger plants also. Good bibliographies are included.

DENISTON GEORGE LOWELL

The science of modern wood finishing. A digest of modern materials and methods for industrial finishers and home craftsmen seeking to secure finer finishes at lower costs. With an introduction by Robert F Olmer Dayton, Ohio Research Press Inc., 1949 386 p. illus. (part col d) 21 cm. $6.00. 22[illegible]

Contents. Cabinet, furniture and other woods. Glues and [illegible] Sanding. Bleaches and bleaching. Staining—materials and [illegible] Aniline dyes for Clinchfield non grain-raising stains. Organic [illegible] used in making Clinchfield NGR stains. Fillers and filling. [illegible] surfaces. Patching up practice. Finishing with varnish. [illegible] synthetics and their application. Rubbing and polishing of [illegible] coatings. Novelty finishes and other special finish effects. [illegible] techniques. Representative finishing schedules. [illegible] finishing practice. Repairing and refinishing. Appendix [illegible] figures for finishers. Bibliography Glossary of terms.

Note: A technical survey of present-day materials and [illegible] which is especially valuable for information on developments of recent years. Transparent and semi-transparent finishes are [illegible] while paints and other opaque materials that conceal the [illegible] wood are not included. Preliminary operations, such as [illegible] refinishing operations, such as the repairing of [illegible] together with the application of original finishes [illegible] material is presented which is potentially of interest [illegible] craftsmen, the book is addressed primarily to persons [illegible] furniture manufacturing and to others with technical [illegible] interests in the field. The bibliography and glossary are [illegible] but there is no index.

SODERBERG GEORGE A.

Finishing materials and [illegible] ington Illinois McKnight & [illegible] lishing Company 1952 320 [illegible] $4 00

Contents (abridged) Section I, Finishing [illegible] varnishes and enamels Synthetic [illegible] varnish. Paint. Metallic paint. [illegible] paint. Volatile finishing material. [illegible] Stains. Woodfiller. Bleaches [illegible]

Coated and polishing abrasives. Waxes. Pressure-sensitive tapes. Section II, Finishing methods: Brushing. Spraying. Dipping and flocoating. Roller coating. Tumbling. Methods of procedure. Recommended and safe practices in the finishing department. Opportunities in the painting industry. Index.

Note. Although this book is primarily a textbook for practical students enrolled in vocational courses, it contains such a wide range of information that its usefulness extends to readers and craftsmen not enrolled in schools. A number of topics not usually treated in practical texts are covered. For example, there is a chapter on how paint brushes are made. It is supplemented by a list of pertinent literature. The discussions of most topics are short, but they contain much useful information. There are 180 illustrations of good quality. The author is Assistant Professor of Industrial Education at the Stout Institute.

WALDIE, W. A.

The science of wrinkle finishing: the manufacture and application of the "one coat" finish. Introduction by Paul Kennedy. Dayton, Ohio, Research Press Inc. 1949. 204 p. illus. (part col'd) 21 cm. $5.00 2270

Contents: Part I, The characteristics and application of "wrinkle" finishes: Origin of "wrinkle" finishes. "Wrinkle" pattern, texture and gloss. Color in "wrinkle" finishes. Physical characteristics of "wrinkle" finishes. Surface preparation of "wrinkle" finishing. Application of "wrinkle" finishes. Baking of "wrinkle" finishes. Flexible and air dry "wrinkles." Part II, The formulation and manufacture of "wrinkle" finishes. Ingredients and processing equipment. Tung oil formulations. Castor oil formulations. Oiticica oil formulations. Linseed oil formulations. Perilla, fish and soy bean oil formulations. Synthetic resin formulations. Asphaltum and blown "wrinkle" formulations. Special pattern formulations. Air dry and flexible formulations. Pigmentation. Appendixes: Outline for study of polymerization in the drying of oils. Summary of "wrinkle" patents. New Wrinkle, Inc. ... Bibliography. Glossary of terms.

Note. "Wrinkle" finishes are widely used on metals, especially in the finishing on the cases or housings of office machines, measuring instruments, cameras, etc. This book is a comprehensive summary of the subject in which their development, types, and formulations are covered. The chemistry of "wrinkle" finishing is discussed in practical detail, and there are 11 photographs illustrating various finishes. Also the patent aspect including both patents issued and notable patent litigation is covered.

VARIOUS SUBSTANCES

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on aging of rubbers. Chicago Spring meeting American Society for Testing Materials March 2 1949. Philadelphia, Pa. American Society for Testing Materials, 1949. 72 p. illus. 23 cm. (Special technical publication no. 89) Cloth, $2.40; paper $1.75 2271

Contents. Introduction, by G. C. Maassen. The mode of attack of oxygen on rubber, by A. M. Neal and J. R. Vincent. Oxygen-absorption methods—their utility and limitations in the study of aging, by J. Reid Shelton. Chemical changes in elastomers and antioxidants during aging, by John O. Cole. Physical aspects of the aging of rubbers, by M. C. Throdahl. The effects of light and ozone on rubber, by John T. Blake. The effect of temperature on the air aging of rubber vulcanizates, by M. O. Schoch, Jr. and A. E. Juve.

Note. The papers comprising this symposium have been prepared by industrial chemists actively engaged in rubber research. They provide a description of methods employed in conducting accelerated aging tests on natural and synthetic rubbers and a review of present-day knowledge concerning the physical and chemical changes which occur during the aging process. Discussions and bibliographies are included.

ANDERSON, CARL CLAUDE AND H. H. HINSON

Helium-bearing natural gases of the United States: analyses and analytical methods. Washington, D. C. Government Printing Office, 1951. 141 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 486) Paper $0.70. 2272

Contents: Survey of helium resources. Methods of collecting samples. Methods of analysis. Apparatus and method for determining helium by measuring volume. Improved apparatus and procedure for determining helium in natural gas by measuring pressure, by E. M. Frost, Jr. Orsat apparatus. One-cut apparatus. Limits of combustion. Well data submitted with gas samples. Tables. Samples from gas and oil wells. Samples from pipe lines. Miscellaneous samples.

Note. The results of the Bureau of Mines survey of helium resources are given in this report, which comprises gas analyses and accompanying data on more than 2100 samples that have been collected in 30 states. The survey to determine the nation's helium resources has been carried on in all natural gas-producing areas of the United States since the inception of the Government's helium program in 1917, and the primary purpose of the report is to present the results of this work in tabulated form. Two types of apparatus and two methods are described for determining helium in gas samples. By the older of these methods helium is determined by volume measurements, and in the newer method, which is more precise, the analytical procedure employs pressure measurements.

BAILEY, ALTON EDWARD

Industrial oil and fat products. Second completely revised and augmented edition. New York, Interscience Publishers, Inc., 1951. 967 p. illus. 23 cm. (Fats and oils: a series of monographs on the chemistry and technology of fats, oils, and related substances. Editorial board: A. E. Bailey and others) $15.00. 2273

Contents (abridged): Part A, The nature of fats and oils: Structure of fats and fatty acids. Physical properties of fats and fatty acids. Role of fats in diet of man. Part B, Raw materials for oil and fat products: Sources, utilization, and classification of oils and fats. Composition and characteristics of individual fats and oils. Part C, Industrial utilization of fats and oils: Cooking and salad oils. Plastic shortening agents. Butter and margarine. Bakery products and confections. Soap and other surface-active agents. Paints, varnishes, and related products. Part D, Unit processes in oil and fat technology: Handling, storage and grading of oils and oil-bearing materials. Extraction of fats and oils. Refining and bleaching. Hydrogenation. Deodorization. Fat splitting, esterification, and interesterification. Soapmaking. Fractionation of fats and fatty acids. Polymerization, isomerization, and related processes. Solidification, homogenization, and emulsification. Author index. Subject index.

Note. A comprehensive monograph on the fats and oils used in industry and the technology of extracting and using them. In addition to natural products, information is included on "spans," "tweens" and others of these materials used in association with fats and oils, especially in food products. The treatment is on a professional level, and the book is intended for graduate students and graduate chemists already at work in industry. Processes, extraction, refining, hydrogenation, etc., are explicitly described. Related literature is cited in footnotes and the authors' names are brought out in the 19-page author index. In comparison to the first edition (1945) the work has been extensively rewritten and much expanded.

BAILEY, ALTON EDWARD

Melting and solidification of fats. New York, Interscience Publishers, Inc., 1950. 357 p. 23 cm. $7.50. 2274

Contents: General and theoretical considerations. Laboratory techniques. Melting and solidification of pure compounds. Melting and solidification of mixtures. Solubility. Practical melting and solidification processes. Author index. Subject index.

Note: Both the theoretical and practical aspects of the melting and solidification of fats are covered in this book. The presentation is on a professional level, and the work is designed for chemists and other technologists in industry and industrial laboratories. Phase diagrams and other graphical and tabular presentations of useful data appear frequently throughout the book. The related literature is cited in footnotes. The names of the authors of the papers referred to are gathered together in the author index.

BEDOUKIAN, PAUL Z.

Perfumery synthetics and isolates. New York, D. Van Nostrand Company, Inc., 1951. 488 p. illus. 24 cm. $8.50 2275

Contents: Introduction. Acetophenone and homologs. Aliphatic alcohols. Aliphatic aldehydes. Amyl cinnamic aldehyde. Anisic aldehyde (aubepine). Anthranilates. Benzaldehyde. Benzophenone. Benzyl alcohol and its esters. Borneol and iso-borneol. Cinnamic acid and its esters. Cinnamic aldehyde. Cinnamyl alcohol. Citral. Citronellal. Citronellol (rhodinol). Coumarin. p-cresol derivatives. Cyclamen aldehyde. Dimethyl benzyl carbinol. Diphenyl oxide. Eugenol and iso-eugenol. Geraniol. Heliotropin. Hydratropic aldehyde. Hydrocinnamic alcohol. Hydroxycitronellal. Indole and its homologs. Ionones. Alkyl gamma lactones. Linalool. Methyl heptine carbonate and homologs. Beta naphthyl ethers. Artificial nitro musks. Macrocyclic musk compounds. Nerol. Phenylacetaldehyde. Phenyl acetic acid and esters. Phenyl ethyl alcohol. Phenyl methyl carbinol. Salicylates. Terpineol. Vanillin. Analytical section. Vapor pressure graphs. Index.

Note: A reference book of information on synthetic perfumery and flavoring compounds. In most instances the following information is given for each compound chemical name, chemical formula, structural diagram, general description covering uses and other points, occurrence, methods of preparation, chemical properties, physical constants, methods of manufacture, methods of purification and analysis, statistical data on production and sales, and literature references. The last-mentioned are international in scope and include some patents. The analytical section at the end of the book covers general analytical methods. The book is an invaluable one for chemists in the perfume industry and is of some interest to organic chemists in other lines.

Brauns Friedrich Emil

The chemistry of lignin. New York Academic Press Inc., 1952 808 p 24 cm. $14.50 2276

Contents: Introduction. The evolution of lignin chemistry. The definition and distribution of lignin. Color reaction of lignified materials. The isolation of lignin. The determination of lignin. The physical properties of lignin. The elementary composition and constituent groups of lignin. The acylation and acylysis of lignin. The alkylation of lignin. The halogenation of lignin. The nitration of lignin. The sulfonation of lignin. The hydrolysis of lignin. The alcoholysis of lignin. The mercaptolysis of lignin. The phenolysis of lignin. Reduction, hydrogenation, and hydrogenolysis of lignin. The oxidation of lignin. The alkali fusion of lignin. Special reactions with lignin. The thermal decomposition of lignin. The biological decomposition of lignin. Theories on the structure of lignin. The linkage of lignin in the plant. Theories on the formation of lignin. Synthetic lignins. Author index. Subject index.

Note: A comprehensive monograph of the current knowledge of the chemistry of lignins, written for professional chemists. It is based upon literature surveys; but, unlike some books that are similarly derived, the text does not lean on the original articles but is full enough to be useful in itself. The preface is not dated and the author has included no statement as to the date to which he covered the literature. A perusal of dozens or so of the chapter bibliographies indicates that comprehensive coverage ended with 1948, though few entries for publications issued in 1949 and 1950 are included. The book is of primary interest to chemists in the paper industry and of secondary interest to chemists in the plastics industry and to botanists. The author is associated with the Institute of Paper Chemistry

Curme, George Oliver, jr., editor

Glycols. George O Curme, jr., editor Franklin Johnston, associate editor New York Reinhold Publishing Corporation 1952 389 p illus. 24 cm. (American Chemical Society monograph series) $12.00. 2277

Contents: Glycols—an introduction. Ethylene glycol production, by F. R. Rector and W. J. Toussaint. Physical properties of ethylene glycol, by W. S. Jones and W. S. Tamplin. Commercial applications of ethylene glycol. Ethylene oxide, by H. C. Schultze. Derivatives of ethylene glycol, by A. B. Boese, jr., and others. Ethylene glycol condensation polymers. Propylene glycol production, by F. R. Rector and W. J. Toussaint. Physical properties of propylene glycol, by W. S. Jones and W. S. Tamplin. Commercial applications of propylene glycol. Propylene oxide, by R. F. Holden. Derivatives of propylene glycol, by R. F. Holden. Propylene glycol condensation polymers, by R. F. Holden. Higher glycols, by S. M. Livengood. Physiological aspects of the glycols and related compounds, by H. F. Smyth, jr. Analyses and test methods, by E. F. Hillenbrand, jr. Author index. Subject index.

Note: Essentially this is a reference book for the use of industrial chemists. The properties of the various glycols and glycol derivatives are adequately described but the emphasis is on manufacturing methods and applications. The presentation is technical and concise. However, all important points in the text are cross-referenced to the source articles cited in the bibliography. Patents and books are cited in the bibliographies along with papers in periodicals. The authors and editors are all associated with the Carbide and Carbon Chemicals Company

Guenther, Ernest

The essential oils. Volumes II–VI. New York D Van Nostrand Company Inc., 1949–52 illus. 24 cm. $12 00 per volume. 2278

Contents (abridged) (1951*) Volume two The constituents of essential oils; co-author, Darrell Althausen. Hydrocarbons. Alcohols. Aldehydes. Ketones. Phenols. Quinones. Acids. Esters. Lactones, coumarins, and coumarones. Furan derivatives. Oxides. Compounds containing nitrogen and sulfur. Terpenes, sesquiterpenes, and derivatives of unknown constitution. The preparation of derivatives of essential oil constituents, by F. S. Sterrett. Index. Volume three. Essential oils of the plant families Rutaceae and Labiatae. Index. Volume four. Essential oils of the plant families Gramineae, Lauraceae, Burseraceae, Myrtaceae, Umbelliferae, and Geraniaceae. Index. Volume five. Essential oils of the plant families Rosaceae, Myristicaceae, Zingiberaceae, Piperaceae, Anacardiaceae, Santalaceae and Myoporaceae, Zygophyllaceae, Leguminosae, Hamamelidaceae, Dipterocarpaceae, Annonaceae, Oleaceae, Amaryllidaceae, Rubiaceae, Magnoliaceae, Caprifoliaceae, Violaceae, Resedaceae, Saxifragaceae, Caryophyllaceae, Primulaceae, Tiliaceae, and Compositae. Index. Volume six. Essential oils of the plant families Ericaceae, Betulaceae, Valerianaceae, Verbenaceae, Cistaceae, Cruciferae, Liliaceae, Iridaceae, Araceae, Palmae, Cyperaceae, Moraceae, Aristolochiaceae, Chenopodiaceae, Ranunculaceae, Euphorbiaceae, Malvaceae, Ulmaceae, Podocarpaceae, Pinaceae, Taxodiaceae, and Cupressaceae. Botanical classification of essential oil plants. Index. Volume VI. Index, Volumes I–VI.

Note. (1951) These five volumes bring to completion one of the most comprehensive and authoritative works on the essential oils. Volume one, published in 1948, dealt with the chemistry and manufacturing procedures in general. Volume two provides data on the occurrence, methods of isolation, and properties of the natural constituents of essential oils. The remaining four volumes discuss the individual oils under such headings as history botany, producing regions, climatic and soil requirements, planting, harvesting, properties, composition, and total production. The numerous footnote references constitute an extensive bibliography of the subject.

Hassler, John W

Active carbon. Brooklyn, N Y Chemical Publishing Company Inc., 1951 384 p. 23 cm. $7 00 2279

Contents (abridged) Part 1, Preparation and properties. Preparation of active carbon. Theories of adsorption. Chemical and physical properties of adsorbable compounds. Adsorption from mixtures. Electrophoresis and peptization. Theories of contact catalysis. Chemistry and physics of the active-carbon surface. Desorption. *Part 2,* Applications Liquid systems. Sugars and syrups. Fats and oils. Alcoholic beverages. Water purification. Organic chemicals. *Biochemistry and pharmacology. Analytical* applications. Protection against toxic gases. Recovery of solvent and other vapors. Applications as catalyst. Part 3, Experimental methods: General principles of experimental studies with active carbon. Gas adsorption. Liquid-phase adsorption. Index.

Note. A monograph in which the whole field is compactly covered and references are given to the pertinent literature. The bibliographies include not only books, periodicals, and patents, but also some references to unpublished information. The excellent discussions of applications in specific fields account for about one-third of the book. The author is Director of Active Carbon Research for the West Virginia Pulp and Paper Company

Jacobs, Paul Burke

Industrial alcohol. A study of the technology production, and uses of alcohol in relation to agriculture. Washington, D C Government Printing Office, 1950 101 p. illus. 23 cm. (United States. Department of Agriculture. Miscellaneous publication no 695) Paper $0.30. 2280

Contents Ethyl alcohol: Origin and chemistry Taxation and legal definition. The alcohol-distillation industries. History of production. Industry organization. Corporate financing and control. Alcohol imports. Sources of alcohol: Fermentation. Saccharine materials. Starchy

materials. Cellulosic materials. Fermentation procedures. Synthetic alcohol. Anhydrous alcohol. Butanol acetone plants. Summary of origins and applications. Financial aspects of alcohol production. Alcohol markets. Literature cited. Sources of additional information.

Note: The chemistry, manufacture, and uses of ethyl alcohol presented chiefly from the viewpoint of its production from agricultural products, are treated in this pamphlet by an industrial specialist on the staff of the Bureau of Agricultural and Industrial Chemistry of the Agricultural Research Administration.

KERR, RALPH WALDO editor

Chemistry and industry of starch. Second edition revised and enlarged. New York Academic Press Inc., 1950 719 p. illus. 23 cm. $12.50 2281

Contents (abridged) Section I, Occurrence in nature. Section II, Preparation: The manufacture of corn starch. Manufacture of tapioca and arrowroot starches. Manufacture of wheat, potato, and other industrial starches. Evaluation of modified starches in practice. Section III, Properties. Section IV Reactions The hydrogen bond in starch as basis for interpreting its behavior and reactivity. Derivatives of starch. Oxidation of starch. Dextrinization. Acid hydrolysis of starch. The amylases, properties and production. Modification of starch by enzymes. Section [illegible] Uses and analyses Uses of starch in paper manufacture. Uses of starch and starch products in the fermentation industries. Use of starch and starch products in foods. Use of starch products in the textile industry. Starch adhesives. Methods of analysis for starch. Author index. Subject index.

Note (1944) A comprehensive survey of current starch chemistry and industrial uses of starch. It is designed mainly for the industrial chemist who is concerned with starch in one or more manufacturing processes. Important statements and data in the text are keyed to the extensive reference lists. In the present edition—which is the product of eight authors in addition to the editor—the work has been very substantially revised and amplified. The increase in the length is almost 180 pages, [illegible] reflection of the substantial growth of the patent and periodical literature.

KERTESZ, ZOLTAN IMRE

The pectic substances New York Interscience Publishers, Inc. 1951 628 p. illus. 24 cm. $13.50. 2282

Contents (abridged) Part one. The chemistry of pectic substances: D-galacturonic acid. Composition and structure of pectic substances. Heterogeneity of pectic substances. Preparation and purification of pectic substances in the laboratory. Detection, determination and characterization of pectic substances. Part two, The botany of pectic substances: Occurrence and distribution of pectic substances in plants. Proportions of and changes in pectic components in some plants. Part three. The biochemistry of pectic substances: Commercial pectic enzymes. Behavior of pectic substances in the animal body. Part four Manufacture of pectic substances: Apple pectin. Citrus pectin. Beet pectin. Control of setting time. Pectins of commerce. Part five, Some functions and applications of pectic substances and pectic enzymes: Pectic substances in foods. Applications of pectic substances in nonfood products. Applications of pectic enzymes. Author index. Subject index.

Note: Probably the most comprehensive treatise on this subject that will be published in many years. It is essentially [illegible] digest of the complete literature. There are 2024 footnote references. The work should serve well as [illegible] reference book in libraries devoted to organic chemistry and in the personal libraries of food chemists, particularly those chemists concerned with the large-scale manufacture of jams and jellies. The author is associated with the New York State Agricultural Experiment Station at Cornell University.

KUNIN ROBERT AND ROBERT J MYERS

Ion exchange resins New York John Wiley & Sons Inc., 1950 212 p illus. 23 cm. $4 75 2283

Contents Introduction and historical review The theory and mechanism of ion exchange. Cation exchange resin characteristics. Anion exchange resin characteristics. The synthesis of ion exchange resins. Applications, general considerations. Water softening by ion exchange. Deionization of water and other electrolyte solutions. Ion exchange in analytical chemistry. Miscellaneous applications. Methods of studying ion exchange resins. The design of ion exchange units. References. Appendix. Author index. Subject index.

Note. A compact survey of current knowledge and practice. The authors have been leaders in the development of commercial ion exchange resins. They have included not only the information from published literature but also unpublished data based on their own work. The book is addressed to trained chemists and is useful both as an introduction and as a reference book. There are about [illegible] illustrations, numerous tables, and [illegible] bibliography of more than [illegible] entries.

LAWRENCE, CARL ADAM

Surface-active quaternary ammonium germicides. New York Academic Press, Inc., 1950 245 p. illus. 24 cm. $6.00 2284

Contents (abridged): Historical. Chemistry. Physical properties. Biology. Pharmacology and toxicology. Practical applications for surface-active agents and germicides. References. Author index. Subject index.

Note A survey of the accumulated knowledge of [illegible] group of synthetic compounds [illegible] hich are effective germicides under [illegible] wide variety of conditions. It is based on the published literature, and references are carefully made throughout the work from statements in the text to the numbered entries in the bibliography. The author has organized and summarized the reported results, and he has also added [illegible] moderate [illegible] umber of critical comments of his own. The book is of interest to persons concerned with disinfection in connection with medicine and surgery, public health, foods, restaurants, dairies, laundries, etc. It is phrased in technical terminology. A directory of products trademarked in the United States of America is included.

McCUTCHEON JOHN WELLAND

Synthetic detergents. New York MacNair Dorland Company, 1950. 435 p. illus. 24 cm. $7.00. 2285

Contents. Introduction. Fundamentals of surface activity. Evaluation methods and analytical examination of detergents. Enumeration of surface active agents and synthetic detergents by class and type. Manufacturing processes and raw materials. Trade names, products. Manufacturing processes and raw materials. Boundary between and processes. Applications and uses. Appendix. Boundary between by prominent design. A.O.C.S. methods. Surfactant classification list. Industrial classification index. List of surface active agents. Index.

Note In this work the primary emphasis is on the practical aspects of the synthetic detergents. Applications and methods of evaluation are covered rather thoroughly but manufacturing methods and some other aspects are covered briefly. Typical formulas for products ranging from insecticides to cleaners, in [illegible] hich [illegible] detergent is [illegible] principal ingredient are included. The appendix includes [illegible] tabulation of trade names under which detergents are sold. For each trademarked product the name of the manufacturer, class, formula, uses, etc [illegible] are given. The book is useful to purchasing agents and to technical personnel in charge of processes in which detergents are used—for instance, textile dyeing.

NIVEN WILLIAM W JR.

The fundamentals of detergency Under the sponsorship of the American Institute of Laundering. New York Reinhold Publishing Corporation, 1950. 256 p. illus. 24 cm. $6.50. 2286

Contents (abridged) Part I, Fundamental considerations of the detergent process. Introduction and historical review. Nature and properties of detergents. Chemistry of unbuilt detergent solutions. Nature and properties of detergents. Surface activity of unbuilt detergent solutions. Nature and properties of builder solutions. Electrical phenomena in detergency. Influence of builders on the nature and surface activity of detergent solutions. Part II, Practical considerations of the detergent process. Separation of soil from fabric. Dispersion of soil in the detergent solution. Stabilization of dispersed soil. Present knowledge of detergency vs. present washroom practice. Appendix: The theory of Cassie and Palmer on the effect of electrolytes on surface activity. Author index. Subject index.

Note In this new book the chemical and physical principles [illegible] hich underlie surface activity and detergent action are discussed for the benefit of chemists and other personnel in such industries as laundering, textiles, and printing inks. Theory is presented concisely but adequately for the purpose. The relations between theory and application are carefully drawn, with many illustrations taken from the laundry industry. Although the book is not for chemists alone, some knowledge of fundamental chemistry including physical chemistry is necessary to follow the exposition. There are many footnote references to related literature.

POST HOWARD WILLIAM

Silicones and other organic silicon compounds. New York Reinhold Publishing Corporation, 1949 230 p illus. 23 cm. $6 00. 2287

Contents: Introduction. Halogenated silanes. The work of Frederick S. Kipping and others. Organic compounds of silicon prepared at moderate temperatures (journal literature) Organic compounds of silicon prepared at moderate temperatures (patent literature). Organic compounds of silicon prepared at higher temperatures. The uses of polymerized organosilanes. Silico organic compounds analogous to ethers and amines. Nomenclature. Physical properties. Bibliography Author index. Subject index.

Note: The scope of this work is "those compounds of silicon which contain carbon of such character as definitely to impart organic properties to the molecule. Its purposes are to provide brief descriptions of the properties and uses of the silicones and other compounds of silicon that fit this definition, and to summarize the various methods which have been developed for their synthesis. It is based on an extensive survey of the international literature including patents, and the bibliography of original sources constitutes one of the most useful features. In the final chapter are tabulated the formula, name, melting point, and boiling point for more than 1,000 compounds.

ROCHOW EUGENE GEORGE

An introduction to the chemistry of the silicones. Second edition. New York John Wiley & Sons, Inc. 1951 205 p illus. 24 cm. $5.50 2288

Contents. The simple covalent compounds of silicon. The carbon-silicon bond. Synthesis of organosilicon compounds. The organosilicon monomers. Types of organosilicon polymers. Properties of the specific silicone polymers. The physical chemistry of silicones. Water-repellent films and protective coatings from organosilicon materials. Some production considerations. Analytical methods. Tables of physical properties of organosilicon compounds. References. Author index. Subject index.

Note: (333*) A useful survey written mainly for the information of industrial chemists and others in need of technical guide. There is some discussion of general chemistry and properties, and fairly explicit information on the various classes of these compounds. Especially useful features from the standpoint of those who will use the volume chiefly for reference are the eleven tables of properties and the bibliography of 518 literature references. Patents are included in this bibliography. There is substantial amount of new material in this edition, including three chapters that did not appear in the first edition.

ROOT HUBER H

Beeswax, its properties testing production and applications. Brooklyn N Y Chemical Publishing Co., Inc. 1951 154 p. illus. 23 cm. $4 75 2289

Contents: Introduction; The origin and discovery of the nature of beeswax. The production of beeswax. The honeycomb. Extracting beeswax from combs or cappings. Testing beeswax. Bleaching beeswax. Uses of beeswax. Beeswax in cosmetics. Beeswax candles. Comb foundation; *Future trends. Glossary* Index.

Note: A compact survey that is of about equal interest to apiarists whose chief product is extracted honey and to manufacturers who use beeswax in such products as polishes and cosmetics. The various commercial uses for beeswax are described; and the chapter on cosmetic uses contains several formulas, most, if not all, of which are reprinted from other books.

SCHWARTZ ANTHONY MAX, AND JAMES W PERRY

Surface active agents their chemistry and technology New York Interscience Publishers Inc. 1949 579 p. illus. 24 cm. $12 00 2290

Contents (abridged) Introduction. General considerations. Part I, Processes for synthesizing and manufacturing surface active agents: Anionic surface active agents—Carboxy acids—Sulfuric esters—Alkyl aromatic sulfonates. Cationic, non-ionic, and miscellaneous surface active agents: Amphotytic surface active agents. Special compositions and mixtures. Part II, The physical chemistry of surface active agents in theory and practice: Surface and interfacial relationships of pure liquids. Bulk properties of surface active solutions. Gross effects and technical evaluation of surface active agents. Relationship of surface activity to chemical constitution. Part III, Practical applications of surface active agents: Applications in the textile industry Cosmetics and personal use. Pharmaceutical, germicidal, fungicidal, and disinfectant uses. Household, laundering, dry cleaning, and general cleaning uses. Metal technology Leather technology Ore flotation. Author index. Subject index.

Note A comprehensive treatment. Theoretical considerations and practical applications share the space about equally The work is based on an extensive literature survey including patents; and it is of interest not only to chemists working in the field but to chemists and manufacturers in all of the industries in which surface active agents and detergents are used.

SPEEL, HENRY C., editor

Textile chemicals and auxiliaries. New York. Reinhold Publishing Corporation, 1952 493 p. 24 cm. $10.00 2291

Contents: Part I, The nature and processing of fabrics: The physical and chemical nature of fibers, by R. R. Roberts. Preparation of fibers and fabrics, by S. M. Edelstein and others. Chemical aspects of textile dyeing and printing. Technology of pigment application, by W W Chase. Textile finishing, by H. H. Mosher Fabric stabilization, by R. C. Pfeifer, Jr. Coated fabrics, by E. W K. Schwarz and J. A. Bennett. Part II, Raw materials in fabric processing: Water, by V J Calise. Fats, oils, and waxes, by F P Greenspan. Starches, gums and glues. Solvents and other organic chemicals, by C. P McClelland. Surfactants, by K. D Langley and H. L. Bernstein. Soap, by G. W Leffingwell. Sulfated oils and fats, by R. A. Pingree. Anionic surfactants (sulfates, sulfonates and others), by J. W McCutcheon and H. C. Speel. Non-ionic condensates, by H. C. Speel. Cationic finishing agents, by R. W Ackley Synthetic resins, by J. R. Lynn and A. R. Nyquist. Cellulose finishes, by J A. Clark. Water resistant treatments, by R. A. Pingree. Flameproofing, by R. W Little. Mothproofing and mothproofing agents, by H. Lettinghaus. Miscellaneous auxiliaries, by H. C. Speel. Author index. Subject index.

Note: A handbook of basic and practical information with the emphasis on the latter. In both the chapters on processes and those on materials the presentation is descriptive and concise. However each chapter is supplemented by an extensive bibliography Citations of patents are included in some of the bibliographies. The book is useful as survey for technically trained persons who are beginning work in the textile industry and as desk reference book for technologists already established in this industry or in the chemical manufacturing industry

THOMSSEN EDGAR GEORGE, AND JOHN W MCCUTCHEON

Soaps and detergents. New York Mac Nair Dorland Company 1949 511 p. illus. 24 cm. $9.00. 2292

Contents: Raw materials, definitions, general considerations. Machinery and equipment. Soap making methods—soap manufacture classified and described according to processes. Soap products—soap manufacture classified and described according to uses and characteristics of the products. Perfuming and coloring soaps. Glycerine recovery Synthetic detergents. Process and analytical control methods. Appendix. Index.

Note: Primarily technical treatise on contemporary processes of soap manufacture and on the chief kinds of soaps. Soap manufacturing processes are described in considerable detail and there are many pictures of soap-making machinery and of important steps in the manufacturing processes. The chapter on synthetic detergents is only 22 pages in length. The appendix contains tabulated reference data on the glycerine content of common oils, the fatty acid content of common oils, fat constants, soap-making properties of oils and fats, and list by trade name of synthetic detergents. This list identifies the manufacturer of each trade-marked product, states its class and formula, and principal uses.

VAIL, JAMES GARRETT

Soluble silicates their properties and uses. Volume 1 Chemistry By James G Vail, assisted by John H. Wills. New York Reinhold Publishing Corporation, 1952 357 p. illus. 24

cm. (American Chemical Society Monograph series) $9.00 2293

Contents: The beginnings. Present practices. The homogeneous systems. The heterogeneous systems. Complex systems. Author index. Subject index.

——— Volume 2 Technology By James G Vail assisted by John H Wills, New York Reinhold Publishing Corporation, 1952 669 p illus. 24 cm. (American Chemical Society Monograph series) $15.00 2294

Contents. Interfaces modified by silicate solutions. New surfaces—coatings and films. Bonded surfaces. Sols, gels, and polymers in industry. Physiological behavior. Toward the future. Author index. Subject index.

Note: A new work which supersedes the author's well known *Soluble silicates in industry* New York, 1928 (ACS monograph no. 46). The text is essentially [illegible] all-organized literature digest with cross-references from statements and data to citations of original sources. Patents, especially United States patents, are included among the sources. The author index lists the names of authors of the cited articles and patents. The presentation is technical, but it is not too theoretical for the average industrial chemist.

VOET ANDRIES

Ink and paper in the printing process New York Interscience Publishers 1952 213 p. illus. 24 cm. $5 90. 2295

Contents. Part I, Ink and press: The function of ink. Measurement of the flow of inks. Flow of dispersions. Flow of ink between parallel plates. Flow of ink on the press. Separation of ink films. Part II, Ink and paper: Characteristics of discontinuous reproduction. Microscopy of halftone printing. Contrast and coverage of ink. Uniformity of ink films. Penetration of ink into paper. Print-through. Ink transfer. Picking of paper. Offset. Physical drying of ink. Chemical drying of inks. Properties of lithographic inks. Author index. Subject index.

Note. The main emphasis in this treatise is on the physics of ink. Paper and the chemistry of ink are discussed chiefly from the standpoint of their relations to the behavior of printing inks when applied to paper and exposed to the atmosphere. The style of presentation is technical and readers need some previous introduction to the fundamentals of printing inks and to the graphic arts processes dependent upon them. The illustrations include [illegible] number of reproductions of microphotographs of cross sections of ink on paper. Literature references are given in footnotes. The [illegible] author is Director of Ink Research on the staff of the J M. Huber Corporation.

WAGGAMAN WILLIAM HENRY

Phosphoric acid phosphates and phosphatic fertilizers. Second edition New York Reinhold Publishing Corporation 1952 683 p. illus. 23 cm. (American Chemical Society monograph series) $15 00 2296

Contents: Introduction. Phosphoric acid in animal and plant life. Sources of phosphoric acid and their classification. Florida hard rock phosphate. Florida pebble phosphate, by J M Laborn. The phosphates of Tennessee, by G C Chapman. Western phosphates, by K. M. Norris. Phosphates of South Carolina, Kentucky, Arkansas and Virginia. Phosphates of foreign countries, by C. A Fulton. Elemental phosphorus and its manufacture. Manufacture of phosphoric acid from elemental phosphorus. The manufacture of phosphoric acid by the wet process, by W. C. Weber. Comparison of sulfuric acid and thermal reduction processes for manufacturing phosphoric acid. Purification of phosphoric acid and its salts, by W. H. Waggaman and W T Gross. Superphosphate, its manufacture and properties, by Wm H. Waggaman and V Sauchelli. Concentrated or triple superphosphate. Ammonium phosphates and ammoniated superphosphates, by E W Harvey and G. L. Frear. Other water-soluble phosphatic fertilizers. Bone ash, degreased bones and dicalcium phosphate. Calcined, fused and defluorinated phosphates, by W T Whitney and C. A Hollingsworth. Calcium and potassium metaphosphates and miscellaneous products. Complete fertilizers and their preparation. Phosphate leavening agents, by H W Easterwood. Phosphate water-softening and cleansing products, by C. R. McCullough. The esters of phosphorus acid and their industrial applications, by L. S. Harris. Phosphating of metals, by G. C. Romig. Phosphates in the manufacture and refining of cane sugar, by V R. Deitz and G. F. Meade. Phosphates in flame-resistant products. Miscellaneous industrial uses of phosphoric acid and its derivatives. Appendix. Index.

Note: Each of the chapters in this comprehensive treatise is a concise, up-to-date survey of the particular aspect of the subject which is named in its title and it is supplemented—as is common in this series—by a substantial list of references. Essentially the work is [illegible] reference book for the information of graduate chemists and others [illegible] ho are associated with the phosphate-producing and -using industries. The appendix includes [illegible] wide range of useful material including [illegible] table of phosphoric acid conversion factors, descriptions of analytical tests, and a classified list of pertinent United States patents. Chapters for [illegible] hich an "other" name is not shown in the above table of contents were written by William H. Waggaman. The first edition appeared in 1927. The present edition is an extensive revision and substantial expansion of the original work.

WEST, CLARENCE JAY

Alkaline processes. Part II Black liquor. Appleton, Wisconsin The Institute of Paper Chemistry 1952 377 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 178) Paper $10.00. 2297

Contents. Books. General articles. Analytical methods. Evaporation. Combustion. Causticizing. Lime sludge. Soda and sulfur losses. Detoxification. Purification methods. Uses. Stream pollution. Instrumentation. Odors. Author index. Patent index.

Note. An extensive listing of books and periodical articles which describe the various methods employed for the recovery and utilization of waste liquors produced in the manufacture of pulp. The 1261 references are annotated and grouped according to the above indicated subjects.

WEST CLARENCE JAY

Chemical testing methods. Part I, Viscosity of cellulose. Appleton, Wisconsin The Institute of Paper Chemistry 1952 85 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 179) Paper $5.00. 2298

Note. The limitations on the scope of this bibliography have been stated by the compiler as follows: "Many articles dealing with the viscosity of cellulose have not been included because the work was carried out by known methods. Further articles concerned with factors influencing viscosity will not be found in the following pages." More than 260 articles selected from the international literature are listed. The entries are annotated.

WILSON, PHILIP JOHNSON AND JOSEPH H. WELLS

Coal coke, and coal chemicals. New York McGraw Hill Book Company Inc., 1950. 509 p illus. 23 cm. (McGraw Hill chemical engineering series) $10 00. 2299

Contents (abridged): Introduction—the nature and scope of coal carbonization. Fuels and combustion. Characteristics of coal for carbonization. Preparation and cleaning of coal for coking. The coking process in byproduct coke ovens. High-temperature coke. Gas. Ammonia and ammonium salts. Light oil. Coal tar. Coal carbonization for gas manufacture. Some low-temperature carbonization processes and the Curran-Knowles process. Economics of the coal-carbonization industries. Trends in the coal-carbonization industry. Appendix. Select bibliography. List of plants for the carbonization of coal in the United States. Index.

Note. As the chapter titles indicate, this is [illegible] treatise on the coking process, its products and by-products. Although many of the topics are discussed from the chemical engineering viewpoint, the effect of the whole work is that of [illegible] good general treatment of the present technology and economic importance of the industry. The book is of interest to the personnel of the coking industry and to executives and engineers in allied industries.

WISE LOUIS ELSBERG AND EDWIN C JAHN

Wood chemistry Second edition. New York Reinhold Publishing Corporation, 1952 2 v illus. 24 cm. (American Chemi-

cal Society monograph series. No. 97) Each volume, $15.00. 2300

Contents: Volume 1 Introduction, by L. E. Wise and E. C. Jahn. Part I, The growth, anatomy and physical properties of wood: Origin and anatomy of wood, by H. P. Brown. The mechanical and physical properties of wood, by C. C. Forsaith. Part II, Components and chemistry of the cell wall: The chemistry of the cell walls of wood, by W. M. Harlow. Cellulose—chemical evidence regarding its constitution, by L. E. Wise. Cellulose—physical evidence regarding its constitution, by H. Mark. Chemically modified celluloses, by C. B. Purves. Cellulose solvents and the properties of cellulose in solution, by A. J. Stamm. Cellulose compounds and derivatives, by E. C. Jahn. The hemicelluloses, by L. E. Wise. The chemistry of lignin, by F. E. Brauns. Part III, The extraneous substances: Extraneous materials of wood—introduction, by L. E. Wise. The volatile oils, by E. F. Kurth. Wood resins, by G. C. Harris. The tannins and coloring matters, by M. A. Buchanan. Miscellaneous extraneous components of wood, by L. E. Wise. Phenolic and other extraneous components of coniferous heartwoods—their relation to taxonomy, by H. Erdtman. Index, by C. J. West. Volume 2. Part IV, Surface properties of cellulosic materials: Surface properties of cellulosic materials, by A. J. Stamm. Part V, Industrial wood chemistry: Combustion of wood, by L. F. Hawley. The thermal decomposition of wood, by A. W. Goos. Wood hydrolysis, by E. E. Harris. The chemical behavior of wood, by E. C. Jahn. Alkaline delignification of wood, by W. F. Holzer. Sulfite delignification of wood, by H. Erdtman. The lesser delignification processes, by E. C. Jahn. Bleaching of wood pulp, by F. H. Yorston. Part VI, Decomposition of wood by microorganisms: The biological decomposition of wood, by W. G. Campbell. Part VII, The chemical analysis of wood: Introduction and miscellaneous determinations, by B. L. Browning. The polysaccharide fraction of wood—isolation of cellulose preparations and the determination of cellulose, by B. L. Browning—The analyses of non-cellulose polysaccharides, by B. L. Browning. The determination of functional groups, by B. L. Browning. The determination of lignin, by B. L. Browning. The evaluation of cellulose preparations, by B. L. Browning. Analytical data and their significance, by B. L. Browning and I. H. Isenberg. Index, by C. J. West.

Note: (1990) A standard treatise which covers wood and its chief components, such as lignin and cellulose, from the chemical viewpoint. Its lineage goes back to Wise and Hawley's *Chemistry of wood*, New York, 1926. The first edition in which there were chapters written by sixteen contributors appeared in 1944, but in the present edition the work has been extended to two volumes, and the number of contributors substantially increased. The various chapters are literature digests and are carefully keyed to citations in the source articles. The scope is comprehensive for scientific information, but the technological aspects of wood utilization are not covered.

WOLFE, HERBERT JAY

Printing and litho inks. Fourth and completely revised, edition. New York Mac Nair Dorland Company 1949 478 p illus. 24 cm. $7.50. 2301

Contents: The history of printing ink. General characteristics of inks. Printing ink vehicles. Solvents for inks. Pigments. Natural mineral pigments. Manufactured mineral pigments. Organic pigments. Black pigments. Resins. Driers and drying. Ink compounds. Addition agents. Typographic printing inks. Planographic inks. Intaglio printing inks. New types of printing inks. Special inks. Physics of printing inks. Factory equipment. Testing. Ink troubles and remedies. Appendix. Index.

Note: (1971) A standard self-instruction book designed to help young men entering the printing-ink manufacturing industry and technicians already employed in it. It serves also as a semi-reference book for journalists and others who occasionally need background information. Emphasis is placed on basic principles and techniques, and the industry is covered from the preparation of inks from raw materials to the testing of the finished product. Numerous formulas for specific types of inks are included. This edition gives more attention to the theory of the subject and includes a chapter on the physics of printing inks. New techniques and the preparation of new types of inks, such as moisture-set and pressure-set typographic inks, are described.

HEAT AND POWER ENGINEERING

APPLIED THERMODYNAMICS

DUSINBERRE, G M

Numerical analysis of heat flow New York McGraw Hill Book Company Inc. 1949 227 p. illus. 24 cm $5 00 2302

Contents. Thermal properties. Elementary combinations. Analytical solutions. Steady state, physical subdivisions. Some alternative methods. A multidimensional system. Steady state—geometrical systems—one dimension. Two-dimensional square networks. Two dimensions—networks other than square. Steady state—two dimensions—body convection. Transient flow—physical subdivisions—geometrical subdivisions—one dimension—two dimensions. Cyclic transients. Variable properties. Miscellaneous problems and topics. Bibliography Index.

Note: The traditional approach to heat flow problems is by means of calculus, method hich requires that the heat-transfer medium be considered as homogeneous. The alternati approach in hich the material of the heat-transfer medium is considered as finite series of points is expounded in this book. The numerical method, which has special application to such complicated heat-flow problems as the transmission of heat through laminated glass and heat conduction from end to buried pipes, is fully developed and many worked examples of problems are included. Frequent comparisons between the analytical method and the numerical method are made.

ECKERT ERNST R. G

Introduction to the transfer of heat and mass. With an appendix on property values by Robert M. Drake Jr New York Mc Graw-Hill Book Company Inc. 1950 284 p. illus. 23 cm. $6 00 2303

Contents Fundamental principles of heat transfer. Heat conduction. Heat transfer by convection Basic conceptions of the flow theory Forced convection in laminar flow Forced convection in turbulent flow Free convection. Condensation and evaporation. Thermal radiation. The exchange of mass. Appendix. Index.

Note. In this relatively brief treatise the reader is shown how to obtain mathematical solutions to complex problems in heat transfer which will check with the results of empirical observations. Prandtl's boundary-layer theory is the basis of most of the work. In the final chapter transferals of mass such as occur when moist material is dried by moving stream of air are shown to be boundary-layer phenomena analogous to the transfer of heat. The book is of interest in many branches of engineering where fairly precise calculations of heating and cooling are essential.

HAWKINS GEORGE ANDREW

Thermodynamics. Second edition. New York John Wiley & Sons Inc., 1951 563 p. illus. 22 cm. $6 50 2304

Contents: Fundamental concepts The first law of thermodynamics. Solids, liquids, and gases. The ideal or perfect gas. Equations of state for real gases. Specific heat of gases. The use of tables for computing the properties of vapors. Frictionless or reversible nonflow ideal gas and vapor changes. The second law of thermodynamics and the Carnot cycle Available energy unavailable energy and entropy Entropy changes for reversible ideal gas and vapor processes Mixtures of ideal gases and vapors. Combustion. The flow of gases and vapors through nozzles and orifices. Ideal cycles of internal combustion engines. Air compressors and air engines. The gas turbine and jet propulsion. Vapor cycles. Mechanical refrigeration. General thermodynamic equations. Introduction to heat transfer Appendix. Index.

Note (2011) An introductory textbook for students in engineering colleges. While the chapter arrangement and general approach remain the same as in the first edition, the new edition has been revised by the author and considerably enlarged. Six of the chapters have been completely rewritten. Many minor changes have been made in other chapters, and additions have been made to the lists of references.

HOTTEL, HOYT CLARKE, AND OTHERS

Thermodynamic charts for combustion processes. Part I and II, by H. C. Hottel, G. C. Williams and C. N Satterfield. New York. John Wiley & Sons, Inc., 1949 2 v illus. 29 cm. Part I $2 60 Part II, $2 40. 2305

Contents. Part I, Text Introduction. The modified air chart. The burned mixture charts. Generalized thermodynamic charts. Appendix A: Basic thermodynamic data. References. Author reference index. Index. Part II, Charts Appendix B: Some equilibrium gas compositions. Appendix C: Generalized thermodynamic data. Modified-air chart. Burned mixture charts.

Note. A reference book for engineers who are concerned with the combustion processes in gas turbine, jet propulsion unit, and rocket. In the text portion the principles of cycle calculation are explained in detail. Older methods are reviewed, and new method devised by the authors is explained. Among the devices whose cycles are analyzed in the first part are turbo-compressor power plant, the compression ignition (Diesel) engine, the ignition engine (Otto cycle) the ram jet, and single- and two-fluid rockets. The second part contains, in addition to the appendix material, one chart for modified air and seven charts hich show the proportions of products of combustion and other properties for various mixtures of hydrocarbons and air under various conditions of pressure.

HUTCHINSON, FRANCIS WILLIAM

Industrial heat transfer New York Industrial Press 1952 326 p. 24 cm. $6.00. 2306

Contents (abridged) Conduction. Radiation. Convection. Combined heat transfer. Forced convection. Appendix. Bibliography Index to graphs. Subject index.

Note. The heart of this work is series of graphs—113 in number—that provide direct solutions for wide variety of problems in heat transfer The make-up of the book places each graph on left-hand right-hand page with explanatory matter on the facing page. This matter includes the title of the chart, the equation on which it is based, reference to the section of the text where the relationships expressed by the equation are discussed, statement of assumed conditions, an example problem and its solution. A useful reference book for chemical engineers and others whose work includes heat transfer computations.

JAKOB MAX

Heat transfer Volume I. New York John Wiley & Sons, Inc. 1949 758 p. illus. 24 cm. $12.00. 2307

Contents (abridged) The basic equation of heat conduction. The basic equations of heat convection. The basic equations of heat radiation. Viscosity Thermal conductivity Emissivity (absorptivity). Heat conduction in steady state without heat gains or losses. Heat conduction in steady state, including internal heat generation. Heat conduction in non periodic temperature changes without heat losses or gains. Heat conduction in periodic temperature changes without

heat losses or gains. Heat conduction at variable temperature, including internal heat generation and heat dissipation to the environment. Special mathematical methods used in heat conduction. Numerical methods for the solution of heat-conduction problems. Graphical methods for the solution of heat-conduction problems. Experimental analogy methods for the solution of heat-conduction problems. Analytical solutions of the convection equations. Similarity relations for heat convection. Experiments on free convection and their correlation. Experiments on forced convection and their correlation. *Optical methods of determining heat transfer by convection.* Similarity between heat convection and mass exchange. Heat transfer in evaporation. Heat transfer in condensation. Appendixes: Problems. Nomenclature. Conversion factors. Bibliography and author index. Subject index.

Note: The first volume published of treatise of considerable importance. The treatment is historical in the sense that the development of each important step in the understanding of heat transfer phenomena is traced back to its origin, but the account is brought down to the present time, and the final effect is statement of heat transfer knowledge as it exists today. The physical properties of matter which influence heat transfer are emphasized, and important experiments and useful experimental techniques are described in detail. The space is about evenly divided between the presentation of empirical knowledge and mathematical analysis. However, the author has avoided any advanced mathematical techniques; hence the work is not beyond the level of advanced engineering students and graduate engineers. The bibliography although extensive is not well organized.

JAKOB MAX, AND GEORGE A. HAWKINS

Elements of heat transfer and insulation. Second edition. New York John Wiley & Sons, Inc., 1950 230 p. illus. 23 cm. $4 00. 2308

Contents (abridged) Conduction of heat in the steady state. Conduction of heat in the unsteady state. Steady-state heat conduction in bodies with heat sources. *Introduction to the dimensional analysis* of convection. Heat transfer by free convection. Heat transfer by forced convection. Heat transfer in condensing and boiling. Experimental determination of conductivities and emissivities. Heat transfer in temperature measurements. Heat transfer and fluid friction. Index.

Note: (443) An introductory textbook designed for use in undergraduate courses in engineering colleges. Technically trained persons who are out of college sometimes find it useful as an introduction or refresher because of its elementary discussions. Although still intended for undergraduate use, few advanced topics have been added in this edition, and the level of difficulty of the problems has been raised somewhat.

JOHNSTON, ROBERT M., AND OTHERS

Elements of applied thermodynamics. By Robert M. Johnston, William A. Brockett [and] Arthur E. Bock. Annapolis The United States Naval Institute, 1951 v p. 24 cm. $5.00 2309

Contents: Introduction and the first law of thermodynamics. Basic concepts and the general non-flow process. Characteristics of gases and the non-flow gas processes. Properties and characteristic behavior of steam. Elementary steady flow processes. Air compression. Cycles, available energy and the second law of thermodynamics. Gas power cycles. Steam power cycles. Refrigeration cycles. Reciprocating steam engines. Nozzles. Steam turbines. Heat transmission. Heat transfer equipment. Properties of mixtures. Air conditioning. Fuels and combustion. Appendices. Index.

Note: An introductory text for college engineering students. Basic principles of thermodynamics are presented with particular attention given to their application in the design and operation of turbines, internal combustion engines, refrigerating machinery, boilers, and the like. Illustrative exercises and problems are freely used to further emphasize the practical aspects of the subject. The treatment requires knowledge of *physics and elementary calculus.*

KERN DONALD QUENTIN

Process heat transfer New York Mc Graw-Hill Book Company Inc., 1950 870 p. illus. 24 cm. $10.00. 2310

Contents (abridged) Process heat transfer. Conduction. Convection. Radiation. Temperature. Counterflow—double-pipe exchangers. 1-2 parallel-counterflow—shell-and-tube exchangers. Flow arrangements for increased heat recovery. Gases. Streamline flow and free convection. Calculations for process conditions. Condensation of single vapors. Condensation of mixed vapors. Evaporation. Extended surfaces. Direct-contact transfer—cooling towers. Batch and unsteady state processes. Furnace calculations. The control of temperature and related process variables. Appendix of calculation data. Author index. Subject index.

Note: An advanced engineering college textbook in which practical problems in heat transfer are directly related to industrial processes *and industrial heat transfer apparatus. Though the fundamentals* of thermodynamics are never lost sight of, the valuable and unique parts of the book are those which are devoted to discussions and calculations pertaining to such apparatus as shell-and-tube heat exchangers and to such processes as the heating or cooling of batches of materials. These apparatus calculations" are brought out in special index preceding the text. The book will be valuable not only to chemical engineers but to all engineers in industry who are concerned with heat transfer problems.

SOLBERG, HARRY LELAND AND OTHERS

Elementary heat power By Harry L. Solberg, Orville C. Cromer and Albert R. Spalding. Second edition New York John Wiley & Sons Inc., 1952 624 p illus. 24 cm. $6.50 2311

Contents: Matter and energy Fuels and combustion. Internal-combustion engines. Fuel-burning equipment. Steam generation. Steam power-plant cycles. Steam turbines. Steam engines. Pumps. Drafts, fans, blowers, and compressors. Feed-water heaters and condensers. The gas-turbine power plant. Mechanical refrigeration. Appendix. Index.

Note: (2015*) An introductory textbook written so that it may be used both by college students who will take no further work in the subject and by students of mechanical engineering who will pursue advanced courses. It covers both the fundamental theory and the operating principles of the chief heat power devices. The first edition appeared in 1946 and was an outgrowth of wartime needs. The increased length of the present edition is due both to added descriptions of such devices as the heat pump and to an expansion of the theoretical material. The authors are members of the faculty of Purdue University

STOEVER, HERMAN JULIUS

Engineering thermodynamics. New York John Wiley & Sons Inc. 1951 458 p. illus. 24 cm. $5 75 2312

Contents: Part I, The first law of thermodynamics: Pressure, specific volume, and temperature. Mechanical work and heat. The first law of thermodynamics. *The internal energy and enthalpy of fluids.* The analysis of simple processes. Part II, The second law of thermodynamics: Power cycles and refrigeration cycles. The second law of thermodynamics. The thermodynamic scale of temperature. Entropy Part III, Applications: Steam power plants. Internal-combustion engines. Refrigeration. Compressors. Nozzles and turbines. Venturi meters, flow nozzles, orifices, and pitot tubes. Air conditioning. Appendix. Index.

Note: An introductory textbook for engineering college students. It is arranged so as to emphasize basic thermodynamic principles rather than characteristics of systems. The author is Professor of Mechanical Engineering at Iowa State University

TRINKS WILLIBALD

Industrial furnaces. Volume I. Fourth edition. New York John Wiley & Sons Inc., 1951 526 p. illus. 24 cm. $10.00 2313

Contents: Introduction. The heating capacity of furnaces. The fuel economy of furnaces. Heat-saving appliances with particular reference to industrial furnaces. Strength and durability of furnaces. *Movement of gases in furnaces. Appendices.*

Note: (2464) The outstanding work on the design of furnaces used for such purposes as heat-treating and annealing of metals. Furnaces used for the melting of metals are not included. Methods of calculating heat capacities and heat losses are covered in detail. There are also valuable discussions of such topics as methods of conserving heat, furnace materials, and the design of foundations and roofs. There is considerable amount of new material in the present edition. *An accurate and fairly detailed* account of the changes made is given in the book's preface. For the present, complete set contains fourth edition of volume and second edition of volume II. The two volumes can be used independently

YOUNG VINCENT WILLARD

Basic engineering thermodynamics. New York McGraw Hill Book Company, Inc., 1952 558 p. illus. 24 cm. $6.50 2314

Contents: Fundamental definitions and concepts. The first law and the closed system. The first law and the open system. The reversible process and the reversible cycle. The second law of thermodynamics. Entropy property of the system. The pure substance. General thermodynamic equations for the pure substance. The perfect gas. Mixtures of gases and vapors. Steady flow of fluids—the turbine. Power—gas systems. The reciprocating steam engine. Power—vapor systems. Refrigeration. The evaluation of irreversibility. The steady flow of fluids in pipes and ducts. Real gases. Thermodynamics of combustion. The transmission of heat. Appendix. Index.

Note: An introductory treatment designed for use in college courses offered to undergraduate students of mechanical engineering. The basic theory is adequately covered, and is related to familiar engineering applications. The discussions of most points are explicit and fairly full, hence more of the text can be comprehended by the student without the assistance of an instructor than of texts written in condensed style. The author was formerly Professor of Mechanical Engineering in Oklahoma Agricultural and Mechanical College.

STEAM ENGINEERING

CHURCH EDWIN FAYETTE JR.

Steam turbines. Third edition. New York McGraw Hill Book Company Inc. 1950 531 p. illus. 24 cm. $6 50 2315

Contents: Types and characteristics. Steam-turbine cycles. Flow of steam in nozzles. Nozzle proportions and tests. Impulse-blading velocity diagrams. Impulse-blading proportions. Reaction-blading velocity diagrams and blading proportions. Effects of size, capacity, speed, and steam conditions on the arrangement of turbine elements. Aerodynamic considerations. Elements of supersonic flow. Vibrations. Structural elements, materials, and stresses. Losses. Efficiency, reheat factor and condition line. Output variation and governing. Turbine performance. Design. Problems. References. Index.

Note. (3909) A standard engineering college textbook. In this edition much new material, both textual and pictorial, has been added, and some of the material in the earlier editions has been discarded. The level of treatment has been raised somewhat so that the book is now suitable for use in graduate as well as advanced undergraduate courses. Also, it will now be more useful to engineers out of school who are in need of an introductory and up-to-date survey. The bibliography, seven pages long, consists mainly of periodical articles published in the last decade

GAFFERT GUSTAF A.

Steam power stations. Fourth edition. New York McGraw Hill Book Company Inc. 1952 637 p. illus. 24 cm. $8.00 2316

Contents: Introduction. Equipment of power station. Steam engines. Steam turbines. Heat transfer. Condensers. Feed-water heaters and evaporators. Feed-water treatment. Fuels and combustion. Steam-generating units. High pressure and binary-cycle boilers. Dust collectors. Economizers and air heaters. Superheaters and reheaters. Fuel-burning equipment. Ductwork and piping. Draft systems. Coal and ash handling. Pumping equipment. Steam-station costs. Load curves and plant location. Selection of prime movers and steam-generating equipment. Cycle arrangement. Binary vapor cycles. Station design. Index.

Note. An engineering college textbook which has been widely used since the publication of the first edition in 1937. It provides thorough introductory treatment in which theory and description are combined. Steam-operated prime movers, steam generating equipment, power house auxiliary machinery, steam power economics, power station layout, etc. are covered, but the structural design of power houses and electrical machinery are omitted. In other words, the scope is steam-generating machinery and the machines which are auxiliary to steam generation. In comparison to the third edition, the book has been rather extensively revised.

POTTER, PHILIP JOHN

Steam power plants. New York The Ronald Press Company 1949 503 p illus. 24 cm. (A volume of a series in mechanical engineering. Burgess H. Jennings editor) $7.00. 2317

Contents: Introduction. Flow of fluids. Pumps. Theory of heat transfer. Fuels and combustion. Steam generators. Boiler auxiliaries—fuel burning equipment—draft equipment—feedwater treatment. Heat exchangers—condensers—feedwater heaters—evaporators and miscellaneous heat exchangers. Steam turbines. Steam engines. Heat balances. Economics of steam power plants. Appendix. Index.

Note. An engineering college textbook in which the emphasis is on the fundamental principles of fluid flow, heat transfer, etc., rather than on the description of a large range of power-plant equipment. However the operating principles and characteristics of a considerable range of typical equipment are described. There is also a fair amount of material on the classification and analysis of fuel. The chapters are supplemented by good lists of problems and by short bibliographies.

SALISBURY, JOHN KENNETH

Steam turbines and their cycles. New York John Wiley & Sons Inc. 1950. 645 p. illus. 23 cm. $9.00 2318

Contents (abridged): Part I, Fundamentals of turbine design: Power-plant cycles. Flow of fluids. Turbine external characteristics. Stage efficiency. Design of turbine stages. Steam path design. Part II, The regenerative cycle: Regenerative and non-extraction performance. Modern heat-balance practice. Conventional heat balance. Shortcut to turbine-cycle heat rate. Part III, Cycle analysis: Heater cycle losses. Cycle equations for homogeneous arrangements. Single heater formulas. Other heater arrangements. Distribution loss. Distribution loss in flashed heaters. Terminal difference and pressure drop loss. Miscellaneous cycle corrections. Part IV, Application engineering. Design details. Estimating steam rates. Estimating heat rates. Appendix. Index.

Note. A substantial treatise on the engineering aspects of steam turbines. The subject is treated mainly from the standpoint of design, but much of the information is of interest also to engineers who are concerned with the specification of turbines for specific applications or with general supervision of power plant operation and maintenance programs. Adequate attention is paid to thermodynamics and fluid flow, and much emphasis is given to cycle analysis. The section on the regenerative cycle is [illegible] a paper which, when presented before the American Society of Mechanical Engineers in 1943, won the Melville medal for the best original contribution of the year. There is a [illegible] selected bibliography

WOODRUFF, EVERETT BOWMAN AND HERBERT B LAMMERS

Steam-plant operation. Second edition. New York McGraw Hill Book Company Inc. 1950. 543 p. illus. 25 cm. $8 00. 2319

Contents. Boilers. Construction of boilers. Combustion of fuels. Settings, combustion equipment, and heating surfaces. Boiler accessories. Operation and maintenance of steam boilers. Pumps. Reciprocating steam engines. Valve-operating mechanisms. Operation and maintenance of steam engines. Construction of steam turbines and auxiliaries. Operating and maintaining turbines and auxiliaries. Auxiliary steam-plant equipment. Appendixes. Index.

Note. (4003) A standard work for stationary engineers and firemen. It provides a fairly comprehensive description of present-day steam plant equipment, together with clear expositions of such matters as the principles of combustion and the practices of handling and stoker operation. This edition has been extensively revised and enlarged to cover advances since 1933. Particular attention is given to the operation of new types of equipment; thus the chapters on boilers and boiler construction now include discussions of heat-recovery equipment, steam separators, new types of stokers, dust-collecting systems, etc. The chapter on fuel combustion has been doubled in length, and the description of steam turbines now runs to two chapters. Review questions and problems are again included.

ZERBAN ALEXANDER HAMILTON AND EDWIN P NYE

Steam power plants. Scranton International Textbook Company 1952 524 p. illus. 24 cm. $7.50 2320

Contents: An introduction. The steam power plant cycle. Fuels. Combustion. Steady state heat transfer. Furnace heat transfer. Steam generators. Steam prime movers. Fluid handling. Instruments and controls. Care of heat transfer surfaces. Power plant economics. I-c power plants. Appendices. Index.

Note: A book designed primarily for use as text for upperclass college students of mechanical or electrical engineering. It provides thorough and reliable statement of the fundamental aspects of steam power and detailed description of typical steam generators and related devices. Construction and maintenance also are covered. The building and subsequent cleaning of large modern boiler are described in detail. *The chapter on the care of heat transfer surfaces* (that is, boiler water treatment, boiler maintenance, etc.) is one of the longer ones in the book. The authors are members of the faculty of Pennsylvania State College.

GAS AND OIL ENGINES

ADAMS ORVILLE LEWIS, SR.

Elements of Diesel engineering. Second edition. New York The Norman W Henley Publishing Co., 1949 367 p illus. 21 cm. $5.00 2321

Contents: Diesel definitions. Diesel engine mathematics. Fundamental engine cycles. Fuel injection systems. Combustion and heat distribution. Rating, testing and performance. Air intake and supercharging. Interpretation of Diesel indicator diagrams. Diesel fuel and lubricating oils. Fuel properties and engine performance. Appendices: Nomenclature, units and elementary theory. The mathematics of elementary engine cycles. Combustion and heat distribution in the internal combustion engine. Fuels. Tests in specifying lubricating oils. Index.

Note: Nominally revision of the author's previous study published under the same title in 1936, this work is practically new text. It retains only small part of the former discussion, rewritten, and offers much new material in addition to advances in the field to date. The whole has been organized into lucid, more compact exposition.

ANDERSON JOHN WALLACE

Diesel engines. Second edition. New York McGraw Hill Book Company Inc. 1949 556 p. illus. 23 cm. $8.50 2322

Contents: Introduction. History Theory Design characteristics. Design details. *Automotive engines. Industrial-power engines.* Marine engines Stationary engines Railway engines Scavenging, charging, and supercharging Combustion chambers Fuel injection system. Governors, control, and *safety* equipment. Cooling and water-cooling systems. Lubrication and lubricating systems. Fuels and fuel systems. Starting systems. Waste-heat utilization. Installation. Operation and maintenance. Performance and cost of operation. Aids to the selection of an engine. Index.

Note: A survey in which the chief engineering problems and practices in contemporary Diesel engines, the chief uses of these engines, and the features of the chief makes are all covered. These subjects are treated from the viewpoint of American engineering. Much of the material is descriptive, but it is written for engineers who are concerned with the selection and maintenance of Diesel engines. There is considerable emphasis on design problems. A large amount of rearrangement and rewriting is evident in this edition. The number of illustrations has been increased from 314 to 436.

DUSINBERRE, G M

Gas turbine power Scranton Pa. International Textbook Company 1952 256 p illus. 24 cm. (International textbooks in mechanical engineering, C. *Fayette Taylor* consulting editor) $6 00 2323

Contents: An introduction. Thermodynamics. The basic gas turbine cycle. Variations on the basic cycle. Gas flow. Turbines. Compressors. Combustion. Heat transfer. Part-load operation. Further variations of the basic cycle. Appendix: Tables. Bibliography. Index.

Note: Thermodynamic and heat balance aspects of the gas turbine are emphasized in this book. Design aspects such as the stiffness of turbine blades are covered also. Applications to small turbines such as are used in airplane engines are not predominant; instead, the book is written so that most of its contents are as applicable to large stationary turbines as to the smallest ones in use. The treatment is introductory to the subject and the book is designed primarily for students in engineering colleges who have completed basic courses in thermodynamics, heat transfer, strength of materials, etc. The bibliography contains about 130 references.

GEORGI, CARL W

Motor oils and engine lubrication. New York Reinhold Publishing Corporation 1950 514 p. illus. 23 cm. $9 50 2324

Contents (abridged): Classification, definitions and specifications. Specification tests and their significance. Viscosity and viscosity index. Evaluation of performance characteristics of motor oils. Oil refining. Motor oil additives. Synthetic oils. Motor oil consumption characteristics. Engine sludge deposits. Aircraft engine lubrication. Stationary, marine, and two-cycle engine lubrication. Subject index.

Note: A comprehensive survey of the current knowledge of lubrication requirements and problems in internal combustion engines. About half of the volume is devoted to discussions of the production, evaluation, and testing of lubricating oils produced for engine lubrication. The remainder is devoted to performance of oils in engines, especially automotive engines, although there is some discussion of stationary engines. The book is written for engineers and other persons with technical training. The text is supplemented by 100 tables, 190 illustrations, and selected references to pertinent literature.

GILL PAUL W., AND OTHERS

Fundamentals of internal combustion engines as applied to reciprocating, gas turbine, and jet propulsion power plants, by Paul W Gill, James H. Smith, Jr., and Eugene J Ziurys. Second edition. Annapolis, Md. The United States Naval Institute, 1952 535 p. illus. 24 cm. $5.00. 2325

Contents: Introduction to reciprocating engines. Engineering thermodynamics. Power cycles. Engine power Fuels. Carburetion. Spark ignition. Combustion in the SI engine. Cooling. Spark ignition engine performance. The compression ignition engine and fuel injection. Combustion in the CI engine. Compression ignition engine performance. Comparison of SI and CI engines. Lubrication. Theory and fundamentals of gas turbine engines. Theory and fundamentals of jet propulsion engines. Hydrogen peroxide for propulsive power Nuclear power for ship propulsion. Bibliography Appendixes: Example problems. Air charts. Development of equations. Aircraft manufacturers. Index.

Note. This textbook was prepared primarily for use in course given to first year midshipmen at the U S. Naval Academy It is presentation of the basic theory, fundamental principles, and performance characteristics of the three major categories of internal combustion engines, covering the nomenclature of the various component parts of these engines, the capabilities and limitations of the various types of power plants, current developments, and future applications. The text is *arranged in two parts. The first* covers the reciprocating types of internal combustion engines, and the second is devoted to the gas turbine, particularly as applied to shipboard installations and the jet propulsion field. The latest types of propulsion plants, namely hydrogen peroxide and nuclear power, are covered briefly At the ends of the chapters are bibliographical references and problem exercises.

LICHTY LESTER CLYDE

Internal-combustion engines. Sixth edition. New York McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. $7 00 2326

Contents: The internal-combustion-engine process. Thermodynamics for engine analysis. The combustion process. Air-standard cycle analyses. *Internal-combustion-engine-process* analysis. Deviations from ideal processes. Fuels. Combustion knock and knock rating. Carburetion and fuel injection. Manifolds and mixture distribution. Valves and valve mechanisms. Ignition of the charge. Combustion-chamber design. Engine lubrication. Heat transfer and engine cooling. Engine performance. Mechanics of principal moving parts. Engine vibration and balance. Engine design. Appendix. Index.

Note: (4014) A long-established engineering college textbook. Its coverage of specific topics, such as engine vibration and balance, is sufficiently inclusive to make the book useful to graduate engineers who find themselves in need of an introductory discussion. A special feature is the inclusion of charts that depict the results of numerous laboratory experiments and measurements on

internal-combustion engines. Although this edition is a few pages shorter than the preceding edition, the work has been substantially revised. New material on such topics as throttling, supercharging, icing, and combustion chamber design has been added.

OBERT, EDWARD FREDERIC

Internal combustion engines analysis and practice Second edition Scranton Pa. International Textbook Co 1950 596 p illus. 23 cm. $7.50 2327

Contents: Basic engine types and their operation. Engine testing. Thermodynamics. Theories of combustion and detonation. Pressure and pressure measurement. Idealized cycles and processes. Combustion charts. Fuels. Knock and the engine variables. Exhaust gas and the air-fuel ratio. Carburetion. Injection. Engine characteristics and valve timing. Spark-ignition engines. Compression-ignition engines. Lubrication. Compressors, gas turbines, and jet propulsion. Appendix. Index.

Note: (4013) A standard textbook for use in engineering colleges. Basic phenomena and principles are discussed rather thoroughly. Engine types and systems are described, but the author has not attempted to include descriptions of specific makes of engines. The discussion of selected topics—of which fuels is an example—is full enough to be useful to graduate engineers reading outside the field of their own specialty. The first edition of the book was written by Burgess Jennings and the present author. Much new material has been incorporated in this second edition.

SCHWEITZER PAUL HENRY

Scavenging of two-stroke cycle Diesel engines. New York The Macmillan Company 1949 268 p illus 26 cm. $4 00 2328

Contents: Present status of the Diesel engine. Peculiarities of the two-stroke cycle engine. Terminology. Effect of scavenging on brake mean effective pressure. Scavenging arrangements. Porting. Inlet ports. Exhaust ports. Superchargers. Compromise. Intake system. Exhaust system. The Kadenacy system. Complete porting calculation. High supercharging of two-stroke cycle engines. Experimental investigation of scavenging. Constructional features of representative two-stroke cycle Diesel engines. Tabulation of porting data. Bibliography. Abbreviations. Index.

Note: The key to greater efficiency in two-stroke cycle Diesel engines lies in the improvement of scavenging, which is the removal of the products of combustion from the cylinder between the combustion and the recharging parts of the cycle. This book is a thorough discussion of scavenging and of scavenging systems. It deals with all of the problems in detail and describes systems and elements of systems which have been used in both experimental and commercial engines. It is written for engine designers who are already engaged in practical engine design. Portions of it were published in the periodical *Diesel power and Diesel transportation* in 1943 and 1945.

SORENSEN HARRY A

Gas turbines. New York The Ronald Press Company 1951 460 p illus. 23 cm. $6.50 2329

Contents: Introduction. Principles of thermodynamics. Simple open-cycle gas turbines. Variations of the basic cycle. Closed-cycle gas turbine plants. The axial-flow compressor. Centrifugal and positive displacement compressors. Axial-flow turbines. Combustion systems. Structural design. Plant performance. Miscellaneous plants. Appendix: Properties of air and combustion gases. Index.

Note: A well-rounded introductory exposition of gas turbine theory and current practice. The book is designed chiefly as a college textbook for the use of upperclass engineering students. However it is so organized and written that it can serve equally well as a first book on the subject for engineers out of college who have the requisite knowledge of basic thermodynamic concepts and terminology. The whole range of gas turbine practice is covered from the small turbines used in current aircraft to the largest stationary units.

VINCENT EDWARD THOMAS

The theory and design of gas turbines and jet engines. New York McGraw Hill Book Company Inc. 1950 606 p illus. 23 cm. $8 50 2330

Contents: Some thermodynamic principles. Fundamentals of gas flow. Jet propulsion. Power plant cycles. Jet propulsion devices. The turbine power plant. The fundamental principles of rotating machines. The centrifugal compressor. The design of centrifugal compressors. The axial flow compressor. Design of axial compressors. Turbine theory. Turbine design. Combustion chambers, fuel systems, and fuels. Materials. Regenerators. Bibliography. Index.

Note: A textbook intended chiefly for upperclass undergraduate and graduate students in engineering schools. Its purpose is to present the theory which is essential in practical design of turbines and to relate this theory to the solution of specific design problems. The principles and characteristics of the chief types of gas turbines and jet units are described in engineering terminology including mathematical equations and graphs.

JET PROPULSION

FIOCK ERNEST FRANK, AND CARL HALPERN

Bibliography of books and published reports on gas turbines jet propulsion, and rocket power plants. Washington, D. C. Government Printing Office 1951 64 p. 23 cm. (United States. National Bureau of Standards. Circular 509) Paper, $0.20. 2331

Contents: Introduction. Classification of recent power plants. Rating of jet engines. Scope and arrangement of the bibliography. Bibliography: Books, 1910–1950. Gas turbines and jet power plants. Atomic energy. Periodical reports, 1940–1950: Development and future use. Theory and performance. Turbojet and propjet engines. Other types of gas turbines. Intermittent or pulsejets. Ramjets. Compounding and thrust augmentation. Rockets. Jet propelled helicopter rotors and propellers. Compressors and their components. Turbines and their components. Combustion and combustion chambers. Thermal properties of working media. Aerodynamic factors. Metallurgy, machining and welding. Ceramic materials in gas turbines. Miscellaneous. Research programs. Nomenclature. Atomic energy. Miscellaneous.

Note: A bibliography of books and periodical articles in English. The works listed are classified, and within each classification are arranged by year of publication. Periodical references prior to 1940 are not included because the development of practical power plants occurred primarily after that date. Some references to nuclear fission are included because of the possibility in the future of the jet engine utilizing energy from that source. *Circular 509* is a revision of *Circular 482*. The latter was issued in 1949 and listed publications through 1948.

LEY WILLY

Rockets, missiles and space travel. New York The Viking Press 1951 436 p. illus. 24 cm. $5 95 2332

Contents: The beginnings of an idea. The decades of the great dreams. "The rockets' red glare." Prophets with some honor. The battle of the formulas. Success, failure, and politics. The return of the war rocket. Peenemünde. White Sands. The rocket into cosmic space. The spaceship. Terminal in space. Appendixes: Rocket airplanes and rocket-assisted take-off. Notes and tables. Bibliography. Index.

Note: (2572*) The first edition of this book, published in 1944, bore the simple title *Rockets* and ran to only 287 pages. The second edition, published in 1947, was entitled *Rockets and space travel* and was 374 pages long. Now we have *Rockets, missiles and space travel*. One counts with interest and some apprehension the appearance of the 1955 edition. The book remains a rather solid but quite readable survey for general readers and rocket enthusiasts, and it still contains many reference features including a full account of early rocket work in Germany (in which the author played an important part), historical accounts of the leading rocket societies of the world, and an annotated international bibliography of works on rockets.

SUTTON GEORGE PAUL

Rocket propulsion elements an introduction to the engineering of rockets. New York John Wiley & Sons, Inc. 1949 294 p. illus. 22 cm. $5 00. 2333

Contents: Classification and definitions. Rocket history. Nozzle theory and thermodynamic relations. Rocket propellant performance calculations. Liquid rocket propellants. Liquid rocket motor. Liquid propellant feed systems. Flight performance. Rocket testing. Solid propellant rockets. Index.

Note: Engineering students and graduate engineers who are preparing for work in connection with rocket and jet engine development are the intended audience for this book. The author has assumed that his readers will have knowledge of basic physics, thermodynamics, and chemistry. The basic principles and considerations of rocket design are presented, and there are numerous descriptions and illustrations of rockets and rocket parts. Reference lists to the related book and periodical literature accompany the chapters.

WIMPRESS, R. N

Internal ballistics of solid fuel rockets—military rockets using dry-processed double-base propellant as fuel. New York McGraw Hill Book Company, Inc. 1950 214 p. illus. 24 cm. $5 00 2334

Contents: Nomenclature. Relation of internal to external ballistics. Characteristics of propellant gases. Burning properties of propellants. Steady-state flow of compressible fluids. Nozzle performance. Flow of gas inside rocket motors. Determination of reaction pressure in rocket motors. Design of propellant grains. Characteristics of burning in perforations. Ignition. Effect of physical properties of propellant on ballistic performance. End burning grains. Static testing equipment. Heat transfer. Index.

Note: The contents of this book were developed largely in experimental investigations at the California Institute of Technology under contract with the Office of Scientific Research and Development during World War II. They pertain chiefly to the types of rockets fired from lightweight rocket launching equipment in the course of land and naval operations. No attempt was made to incorporate knowledge obtained by workers outside the project and there is no bibliography; nevertheless, the book represents significant contribution to the subject.

ATOMIC ENERGY

GLASSTONE SAMUEL AND MILTON C EDLUND

The elements of nuclear reactor theory New York D Van Nostrand Company Inc. 1952 416 p. illus. 24 cm $4.80. 2335

Contents: Nuclear structure and stability. Nuclear reactions. Production and reactions of neutrons. The fission process. The diffusion of neutrons. The slowing down of neutrons. The bare homogeneous thermal reactor (sources determined by Fermi age theory). Homogeneous reactor with reflector—the group-diffusion method. Heterogeneous (natural uranium) reactors. Time behavior of bare thermal reactor. Reactor control. General theory of homogeneous multiplying systems. Perturbation theory. Transport theory and neutron diffusion. Index.

Note: An introduction designed specifically for the instruction of graduate engineers and physicists who are preparing for practical work in connection with the design or operation of nuclear reactors. It was based upon the course of lectures originally given by M. C. Edlund at the Oak Ridge School of Reactor Technology. The first four chapters cover background information on nuclear reactions. The rest of the book is largely mathematical exposition of nuclear chain phenomena and reactions and of reactor control. Although not the first work for scientists and engineers in this field, it does contain range of information which was still classified when the earlier publications were written and therefore is not represented in them.

GOODMAN CLARK, editor

The science and engineering of nuclear power Cambridge Addison-Wesley Press, Inc. 1949-52 2 v illus. 27 cm. $15 00 2336

Contents: Volume 1, Introduction to pile theory: Fundamentals of nuclear physics, by R. D. Evans. The fission process, by M. Deutsch. Neutron diffusion, by V. F. Weisskopf. Nuclear chain reactions, by E. P. Wigner. Elementary pile theory, by F. L. Friedman. The application and experimental basis of pile theory, by R. T. Feld. Chemistry of the fission process, by C. D. Coryell. Control and operation of piles, by W. J. Overall. Construction of nuclear reactors, by C. Goodman. Heat transfer, by R. R. Gilliland. Heavy elements and nuclear fuels, by J. W. Irvine, Jr. Appendices: Table of precise masses. Loss of energy in elastic collisions. Neutron cross sections of the elements, by R. K. Adair. List of illustrations. Index. Volume II, Source materials for nuclear power, by R. D. Parks. Isotope separation, by K. Cohen. Vacuum techniques in nuclear engineering, by F. C. Armistead. Theoretical basis of some measurements useful in pile design, by F. L. Friedman. Research in neutron physics at Chalk River, by B. W. Sargent. Calculation of neutron distribution in heterogeneous piles, by A. M. Weinberg. The concept of albedo in elementary diffusion theory, by G. Placzek. Pile kinetics, by H. Soodak. Statistical aspects of pile theory, by F. de Hoffmann. Heat removal from nuclear reactors, by E. R. Gilliland and others. Rockets and other thermal jets using nuclear energy, by Hsue-Shen Tsien. The shielding of nuclear reactors, by M. L. Goldberger. Effects of radiation on materials, by A. O. Allen. Production of radionuclides, by J. W. Irvine, Jr. Pile materials—metals, alloys, and compounds, by A. R. Kaufmann. Health physics—instrumentation and hazard evaluation, by R. D. Evans. Future developments in nuclear energy, by C. Goodman. Appendices. Index.

Note: (III) The first volume of this work was originally published in 1947 and appeared in second edition in 1952. The second volume was published in 1949. The main change in the second edition of Volume I is in the addition of the third appendix, reprinted from *Reviews of modern physics*, July 1950. Both volumes are comprised of material that was presented in series of seminars at the Massachusetts Institute of Technology. The style is advanced and the books are addressed to graduate students and graduate engineers. The books were approved for publication by the Declassification Office of the United States Atomic Energy Commission.

SOODAK HARRY AND EDWARD C CAMPBELL

Elementary pile theory New York John Wiley & Sons Inc. 1950 73 p. 23 cm. $3.00 2337

Contents: Cross sections. Slowing down of neutrons. Slowing-down density. Slowing down with absorption. Introduction to diffusion theory. Solutions of diffusion equations—boundary conditions. The albedo. Space distribution of slowing-down density. The pile equations—solutions. Critical pile dimensions for simple pile shapes. The neutron cycle. Pile with reflector—group theory. Two-group theory. Pile control. Time-dependent pile equations. Pile kinetics—transient behavior. Index.

Note: A brief presentation of knowledge pertaining to the design and the phenomena of radioactive piles constructed for the production of radioactive isotopes and fissionable elements. It is based on series of lectures which were delivered by Dr. Soodak in connection with training program for staff members at the Oak Ridge National Laboratory (Clinton Laboratories) during 1946 and 1947. Only the declassified portion of the lectures is contained in the book, but this portion is potentially useful to graduate physicists and other scientists in need of basic outlines.

AUTOMOBILES

ASHBURN ANDERSON

Automotive trouble shooting and maintenance. New York McGraw Hill Book Company Inc. 1950 305 p. illus. 24 cm. $4 75 2338

Contents: General procedure. Electrical system. Fuel system. Cooling system. The engine. The power train. The chassis. List of visual aids. Index.

Note: A fairly detailed guide to "trouble shooting" of faults in automobiles intended for the instruction of students in vocational school courses. The whole range of common troubles and repairs is covered, but the book is short on information about automatic transmissions, although it does contain good discussion of overdrives. The book is revision of *Automotive trouble shooting*, an official text of the Ordnance School of the United States Army.

ATHANSON WILLIAM T

Automobile body repair and paint guide New York D Van Nostrand Company Inc., 1952 95 p. illus. 19 cm. $2.00 2339

Contents: Book 1, Automobile sheet metal repair guide: Glossary—terms used in automobile body and fender repair trade. Common names of automobile body panels and sections. Techniques in auto-

mobile body repair. Book II, Automobile paint guide: Glossary—terms used in automobile painting trade. Automobile panel guide. Helpful hints, short cuts, time saving methods. Subject index.

Note. A brief book of elementary information and practical suggestions. Terms, tools, and practical techniques are described for beginners in the trade. The author is General Manager of the Parts and Refinishing Materials Division of the Briggs Manufacturing Company

CROUSE, WILLIAM HARRY

Automotive electrical equipment, its operation and maintenance. Second edition. New York McGraw Hill Book Company Inc. 1950 330 p. illus. 24 cm. $4 50 2340

Contents (abridged) The language of electricity The storage battery Cranking motor fundamentals. Theory of regulator operation. Generator service. Horns. The gasoline engine and fuel requirements. The ignition system. Ignition testing instruments. Switches. Indicating devices. Headlights. Accessories. Appendix. Index.

Note. (4024) A practical guide to the servicing and maintenance of automotive electrical systems for automobile mechanics and students preparing for this occupation. The instructions for testing, adjusting, and repairing electrical systems and devices of motor cars, trucks, and buses are described clearly and in detail, and the descriptions are accompanied by numerous diagrams and photographs. The book is written in simple concrete style that makes it suitable for self-instruction as well as for study in organized classes. In this edition the basic principles of electricity are discussed in more detail, and chapters have been added on the servicing of direction signals, electric windshield wipers, radios, convertible top lifters, heaters, and defrosters. As an aid for self study review questions are now included in each chapter.

CROUSE, WILLIAM HARRY

Automotive mechanics. Second edition. New York McGraw Hill Book Company Inc., 1951 774 p illus. 24 cm. $6 50 2341

Contents (abridged) Introduction, by C. F Kettering The engine. Fuel system. Engine lubrication system Engine cooling system. The electric system Engine service. Clutches. Clutch service. Transmissions Propeller shaft and universal joints. Rear axles and differentials. Springs and shock absorbers. Steering system. Brakes. Tires. Car frame and body Accessory equipment. Shop practice. Appendixes Exhaust gas analyzers. Electrical service procedure for passenger cars with Delco-Remy electrical equipment. Wiring harness and color codes Index.

Note (3035*) A basic yet comprehensive text for apprentice mechanics covering the construction, operation, maintenance, disassembly and repair of automobiles. The detailed servicing and repair procedures are based on manufacturers' shop manuals, and are supplemented with numerous illustrations. The scope and arrangement of this treatise have not been changed, but the material has been brought up to date to include equipment and servicing methods developed since 1944. This is particularly true of the chapters on transmissions here the number of pages has been almost doubled.

EVERETT RALPH JAY

Motor tune up manual. New York The Macmillan Company 1949 355 p illus 22 cm. $6 00 2342

Contents The field of motor tune-up Basic principles Storage batteries Battery maintenance Ignition Spark plugs Fuel pumps. Carburetors. Fuels. Engine principles. Starters Generators Voltage regulators Motor tune-up procedure Glossary of trade terms. Index.

Note A practical book on "tune-up," or the adjustment of present-day automobile engines so that they will render maximum performance. It is intended for the use of automobile mechanics and students in trade schools The various elements of systems that affect engine operation such as the carburetor are discussed concisely from the mechanic's viewpoint with, of course, the major emphasis on the correction of troubles The final chapter includes brief directions on the use of various instruments that have been developed to facilitate engine tune-up

FRAZEE IRVING AND OTHERS

Automotive electrical systems. By Irving Frazee William Landon and Ernest Venk. Contributors Raymond Jonassen Bennie Mirkin and Edward D Spicer Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1952 436 p. illus. 22 cm (Automotive series, edited by Irving Frazee and Earl L. Bedell) $4 90. 2343

Contents Electricity and magnetism. Storage batteries. Generators. Generator cutouts and regulators. Generating system trouble shooting. Starting systems. Lighting systems. Horns and shoes. Instruments and gauges. Index.

Note A book which is suitable for use as text in vocational courses and as self-instruction guide for beginning mechanics. No previous knowledge of electrical principles is assumed, hence background facts and terminology are included along with practical and adequately full discussions of present-day automotive electrical systems, test instruments, and maintenance and repair procedures. There is a generous number of well-reproduced illustrations. The authors are prominent men in technical writing and vocational teaching.

FRAZEE IRVING AND OTHERS

Automotive fundamentals by Irving Frazee Ernest Venk George Hafferkamp, William Landon and John H. Zich. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1949 538 p. illus. 22 cm. (Automotive series, edited by Irving Frazee and Earl L. Bedell) $4 90. 2344

Contents Part I, Fundamentals of science. Part II, Operating principles Automotive vehicles. Engines. Fuel systems. Ignition systems. Electrical systems and instruments. Power trains. Brake systems. Suspensions and steering. Steering control, wheel alignment, and tires. Index.

Note A well planned, generously illustrated textbook for use in vocational schools and other organized courses offered to students preparing for practical work in automobile maintenance. The authors and editors are prominently connected either with automobile manufacturing or with technical education.

FRAZEE IRVING AND OTHERS

Automotive maintenance and trouble shooting. By Irving Frazee William Landon and Ernest Venk Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1952 414 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $4 75 2345

Contents: Maintenance, by I. Frazee and E. Spicer. Electrical systems, by I. Frazee and R. Jonassen. Gasoline engines, by I. Frazee and B. Mirkin. Gasoline fuel systems, by I. Frazee and B. Mirkin. Magneto Mirkin. Battery ignition, by I. Frazee and B. Mirkin. Magneto ignition, by I. Frazee and E. Venk. Cooling systems, by I. Frazee and W Landon. Steering and B Mirkin. Instruments, by I. Frazee and B. control and tire wear by I. Frazee. Brakes, by I. Frazee and B. Mirkin Index.

Note. Another volume in carefully planned series for vocational school students and beginning automobile mechanics. It is written in simple style and is organized so as to facilitate both self-instruction and reference use. The text is supplemented by numerous clearly reproduced illustrations. Although not addressed to the individual automobile owner who attends to his own automobile repairs, the book is suitable for this series of mechanic also.

FRAZEE IRVING AND OTHERS

Automotive suspensions steering and wheel alignment. By Irving Frazee, William Landon and George Hafferkamp. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1951 330

p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $4.50 2346

Contents: Springs. Shock absorbers. Axles. Independent front suspension. Steering gears and linkages. The factors of wheel alignment. Effects and influences. Measurement of wheel alignment factors. Diagnosis of wheel alignment. Corrections and adjustments. Wheel alignment specifications. Index.

Note: As with other units in the series, this volume has been prepared in close collaboration with the manufacturers of the various types of equipment under discussion. The treatment is detailed and the descriptions of maintenance, inspection, and repair procedures are supplemented with many excellent illustrations. Emphasis is placed on wheel alignment techniques and extensive tables of specifications are included. The book is intended to serve young automobile mechanics both as a reference manual and as a self-instruction text.

KUNS, RAY FOREST

Automatic transmissions, principles and maintenance. Milwaukee The Bruce Publishing Company, 1951 466 p. illus. 24 cm. $5.00. 2347

Contents: Automatic transmissions—hydraulic drives. Buick dynaflow automatic transmission. Chevrolet automatic transmission—power-glide torque converter. Chrysler automatic transmission—fluid drive. Ford-Mercury automatic transmission. Oldsmobile hydra-matic drive. Packard ultramatic drive—torque converter design. Studebaker automatic transmission. Index.

Note: The automatic transmissions now used on a considerable number of American automobiles are described in this book. Operating principles are explained and the various makes of transmissions are described specifically and in detail. Maintenance and repair instructions are included for most of the transmissions. The book is useful as background information for automobile mechanics. It may be used as a text to be studied for preparation for work on automatic transmissions or as a supplement to manufacturers' repair manuals. There are more than 330 illustrations and most of these are reproductions of photographs of transmission parts or of repair operations on transmissions.

PACKER, CLARENCE EDWARD

Automotive body and fender repairs. Third edition. Chicago The Goodheart Willcox Company Inc., 1951. 354 p. illus. 23 cm. $3.50. 2348

Contents (abridged): Locating and laying out a shop. Choosing the equipment. Fundamentals of metal working. Principles of soldering. Use of oxyacetylene welding. Arc and spot welding. Shrinking sheet metal. Fender repairing. Panel replacement. Servicing doors. Servicing locks. Cleaning upholstery. Servicing folding tops. Flock coating. Estimating the cost of repair jobs. Infra-red paint drying. Surface preparation. Priming and surfacing. Spraying lacquer and synthetic enamel. Painting over old finishes. Refinishing commercial vehicles. Principles of glass service. Fundamentals of upholstery work. Frame straightening. Index.

Note: A successful instruction manual designed for use in vocational school courses and also as a reference book for beginners in the trade. It is limited to descriptions of practical techniques and to "pointers" on the management of automobile body repair businesses. The techniques of operations such as the restoring of dented fender are described explicitly but there is no discussion of the background metallurgy. There are 710 figures, practically all of which depict rebuilding or refinishing operations.

PURVIS, JUD

Auto mechanic's manual on brakes and steering including wheel alignment. Chicago The Goodheart Willcox Company Inc., 1951 175 p. illus. 22 cm. $3.50. 2349

Contents: Part I: Brakes and why they brake. Brake construction. Hydraulic brakes. Brake types. Power brakes. Brake service and adjustment. Trouble shooting. Part II: Steering control and wheel alignment. Front wheel angularity. Adjustment and correction. Power steering. Index.

Note: A practical manual in which the fundamental principles of automobile brake and steering systems are given equal emphasis with specific instructions on adjustment and repair operations. It is introductory and complementary to the repair manuals issued by automobile and brake manufacturers for specific models. The terminology is relatively simple and there are many clear illustrations, well-reproduced in large scale. The author is technical editor of *Motor service*.

TOBOLDT, WILLIAM KING

Automobile body rebuilding and refinishing. Scranton, Pa. International Textbook Company, 1950 464 p. illus. 21 cm. $5.00 2350

Contents (abridged): Part 1. The rebuilding shop and its basic operations: Planning the layout. Repairs to damaged metals. Repair methods. Welding. Part 2, Rebuilding methods: Repairs to wrecked automobiles. Repairing damaged frames. Part 3, Repairing individual parts: Miscellaneous repair operations. Station-wagon bodies. Part 4, The paint shop. Part 5, Preparation for spray painting: Cleaning and paint-removal. Masking. Part 6, Spray painting: Types of finishes. Causes of spray-painting troubles. Index.

Note: All of the operations in rebuilding and refinishing of damaged automobile bodies are covered in sufficient detail for practical use in body shops. Uses of modern tools such as dinging hammers and hydraulic straightening equipment are described. The text descriptions are supplemented by numerous photographs and line drawings. The sections on painting account for approximately four-ninths of the book's length and are outstanding for their many practical points.

VENK, ERNEST, editor

Automotive engines maintenance and repair. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1951 381 p. illus. 22 cm. (Automotive series, edited by Irving Frazee and Earl L. Bedell) $4.50 2351

Contents: Operating principles. Cleaning and measuring. Disassembly. Cylinder heads and oil pans. Cylinder block and crankcase. Crankshafts and flywheels. Pistons and connecting rods. Valves and valve-operating mechanisms. Engine lubrication, cooling, and mounting. Assembly. Remachining. Index.

Note: A well-organized and admirably illustrated textbook. It has been prepared with the aid of a considerable body of leaders in vocational education and the automotive service industries. It is designed principally for use in vocational school courses offered to young men who are studying to become automobile mechanics. A special advantage over older books on the same subject is the inclusion of full descriptions of present-day methods of repairing and maintaining modern high precision engines.

WOHLFEIL, THEODORE A., AND OTHERS

Automobile body reconditioning. New York McGraw Hill Book Company Inc. 1952 157 p. illus. 26 cm. $3.60. 2352

Contents: Basic hand tools and their application. Welding equipment and methods of application. Basic metal-straightening techniques. Types of body-panel aligning. Use of hydraulic body jacks. Body-panel straightening. Body-panel removal and replacement. Painting equipment and techniques. Upholstery replacement. Damage estimating. Index.

Note: A well-organized and thoroughly illustrated textbook for students in vocational schools and technical courses in high schools and for apprentice mechanics in the automobile body rebuilding trade. All procedures are described in numbered steps. The book is very generously illustrated. The illustrations are reproductions of line drawings or of photographs, and they have been well chosen.

FUELS AND COMBUSTION

AYRES, EUGENE AND CHARLES A. SCARLOTT

Energy sources—the wealth of the world. New York McGraw Hill Book Company Inc., 1952 344 p. illus. 24 cm. $5.00 2353

Contents (abridged) Energy our priceless heritage. How much petroleum. How much coal. How much of other fossil fuels. Patterns of energy use. Waste. Life expectancy The [illegible]. Power from the sun. Windows. How much vegetation. Rain. Wind and tide. Energy balance sheet. Appendixes. Bibliography Index.

Note. A very readable study of the energy resources available to mankind. Discussions of coal, oil, and natural gas take up about half of the space and the rest is devoted to such topics as radioactive materials, direct use of solar energy the use of vegetation as fuel, and the power in [illegible] and waves. The authors come to the conclusion that mankind' energy needs will have to be met sooner than is generally supposed by the use of solar energy They imply that more research could well be done in this field. A wide range of data on fuel resources and other energy topics is included.

BURKHARDT CHARLES H.

Domestic oil burners installation and servicing. New York McGraw Hill Book Company 1951 359 p. illus. 24 cm. $6.25 2354

Contents (abridged) High-pressure gun type burners. Low-pressure atomizing burners. Rotary burners. Vaporizing burners. Determining the gallon-per-hour rate of the oil burner Short methods of calculating gallon-per hour rates for con [illegible] installations. Combustion chambers. Installation of tanks and piping. Automatic oil-burner controls. Control systems. Zone control. Adjusting for higher combustion efficiency (CO_2 and stack temperature) Adjusting for higher combustion efficiency (draft) Fixing the new oil burner. Combustion problems. Excess fuel-oil consumption. Servicing vertical rotary wall flame burners. Basic oil-burner service methods. Index.

Note Men just entering the oil burner servicing field and students preparing for [illegible] the audience for this book. The chief types of oil burners, residential types of controls, and the common servicing operations are described practically and simply There are many descriptions of the mechanisms of specific burners and controls, but the author has not attempted to describe the mechanisms of all such devices on the market. The book is based on [illegible] series of articles that appeared in the *Sheet metal worker* and the *Plumbing and heating journal* from 1947 to 1950.

COWARD H. F AND G W JONES

Limits of flammability of gases and vapors. Washington D C Government Printing Office 1952 155 p illus 26 cm. (United States. Bureau of Mines Bulletin 503) Paper $0.60 2355

Contents Determinations of limits. Some theoretical considerations. Limits of individual gases and vapors. Limits of mixed flammable gases and vapors. Summary of limits of flammability Bibliography Index of authors cited Index of subjects.

Note The results of investigations of certain chemical and physical factors connected with the initiation and propagation of flame in different gases under various conditions are presented in this reference work. This [illegible] the fourth edition of it. It includes 113 different substances in the summary of flammability limits in air and in oxygen as compared with 24 in the first edition.

FIELDNER ARNO CARL AND W A. SELVIG

Methods of analyzing coal and coke Washington D C Government Printing Office 1951 51 p illus 26 cm. (United States. Bureau of Mines. Bulletin 492) Paper $0.50 2356

Contents Introduction Preparation of laboratory sample with preliminary drying. Method of calculating and reporting analyses Preparation of laboratory sample without preliminary air-drying Relative merits of the two methods Total moisture determination for lump coke Methods of analyses Determination of the calorific value of coal. Fusibility of coal ash. Tolerances. Determination of agglomerating index of coal. Classification of coals by rank. Determination of true specific gravity of coal and coke substance Determination of apparent specific gravity Shatter test for coke Tumbler test for coke Determination of free-swelling index of coal. Determination of agglutinating value of coal. Analysis of coal and coke ash Determination of ferric oxide, ferrous oxide, and metallic iron in coal-ash slags and clinkers.

Note Information is here provided on the methods currently used in the laboratories of the Bureau of Mines for analyzing coal and coke and determining their heating values.

HANDBOOK OF OIL BURNING. Frank H. Faust, editor in-chief, G Theodore Kaufman editor New York Oil-Heat Institute of America, 1951 978 p. illus. 24 cm. $10 00. 2357

Contents. Section I, Oil as [illegible] fuel. Section II, Combustion of fuel oil. Section III, Preparing oil for combustion. Section IV Oil burning equipment. Section [illegible] Elements of the heating system. Section VI, Controls. Section VII, Selection of eq[uip]ment. Section [illegible], Application, installation and maintenance of oil burners. Section IX, Standards. Biographies of [a]uthors and editors. Index.

Note. A comprehensive work designed not only for the use of engineers but also for heating contractors and others with practical interest in oil burners and heating. In most parts the presentation is less compact and considerably easier to understand than is typical of engineering handbooks. Detailed descriptions of the various types of oil burners, the various types of heating systems and of related matters such as the method of calculation of heat losses from buildings. Full directions are given for both the installation and servicing. [illegible] tenance of the [v]arious types of residential burners. Though the book's lineage includes the *Handbook of oil burning,* published by the American Oil Burner Association in 1931, no matter has been carried over from that book.

JOHNSON, ALLEN JAQUITH editor

Fuels and combustion handbook. Editor Allen J Johnson associate editor George H. Auth. New York McGraw Hill Book Company Inc. 1951 915 p. illus. 24 cm. $14.00. 2358

Contents (abridged) Section 1 Solid fuels: Fuel sources, trends and reserves in the United States and abroad. Pennsylvania anthracite and other anthracite coals. Bituminous coal, subbituminous coal, and lignite. Peat, wood, wood wastes, charcoal, and agricultural wastes. Section 2, Liquid and gaseous fuels and miscellaneous sources of heat and power: Petroleum and petroleum derivatives. Gaseous fuels. Section 3 Combustion Determination and calculation of heat balances. Drafts and chimneys. Smoke, fine particles and other combustion rejects, including slags. Section 4, Selection of [illegible] fuel. Section 5, Preparation of coal for utilization. Section 6 Fuel-handling methods. Section 7 The transfer and generation of heat Heat transfer and insulation. Boilers and steam generators. Methods of firing solid fuels. Firing liquid and gaseous fuels. Some specific non-steam making uses of fuel. Section 8, General: Boiler measurements and tests. Index.

Note A new handbook of interest in several fields. It provides in handy form not only [illegible] wide range of data useful to engineers and operating personnel in powerplants but also much data on relatively minor fuel topics. Examples of the latter include information on the fuel value of bark and wet wood, descriptions of the techniques of manufacturing briquettes and pellets from fine sizes of coal, discussions of electric heating, solar heat, thermal springs, atomic energy and uses of fuel in the manufacture of metals, ceramic products, etc. There are footnote references to related literature but no attempt at [illegible] systematic bibliography

LEWIS BERNARD, AND GUENTHER VON ELBE

Combustion flames and explosions of gases. New York Academic Press, Inc. 1951. 795 p. 24 cm. $13.50. 2359

Contents (abridged) Part I, Chemistry and kinetics of the reactions between fuel gases and oxygen. Theoretical foundations. The reaction between hydrogen and oxygen. The reaction between carbon monoxide and oxygen. The reaction between hydrocarbons and oxygen. Part II, [illegible] in flames. Emission spectra and ionization in flames. Flame propagation Flame photography and pressure recording. Combustion waves in nonturbulent explosive gases. Combustion waves in turbulent explosive gases. Mixing and combustion in fuel jets Detonation waves in gases. Flames in electric fields. Part III, State of the burned gas: Temperature, pressure, and volume of the burned gas. Temperature and radiation of the burned gas. Industrial [illegible] Part IV Problems in technical combustion processes. Data for thermochemical calculations. Limits of inflammability Flame temperatures. Internal combustion engines. Appendixes: Data for [illegible] heating. Author index. Subject index.

Note. A substantial contribution on the professional level written by two staff members of the Explosives and Physical Sciences Division of the United States Bureau of Mines. The treatment is mainly from the standpoint of physical chemistry with much emphasis on the theory of reaction [illegible] and chemical kinetics. However, [illegible]

pirical knowledge gained from experiments is introduced and given its due in those areas in which the theoretical knowledge is still incomplete. The title of the book is the same as that of another work on the subject written by the same authors and published in 1935. However, the content is almost entirely new.

SCHMIDT, PAUL FRANK
Fuel oil manual. New York Industrial Press, 1951 160 p. 23 cm. $3.50. 2360

Contents: Introduction. Chemistry of petroleum. Petroleum refining processes. Grades and types of fuel oils. Gravity. Heat of combustion. Viscosity. Water and sediment. Carbon. Ash and salt residues. Flash and fire points. Pour point. Sulphur. Color. Distillation. Preheating of oils. Sampling storage tanks. Stability of fuel oils. Fuel oil treatments. Reclaimed fuel oils. Blending of oils. Transportation and storage. Fuel oil specifications. Complaints and causes of trouble. Index.

Note: A compilation of useful and clearly stated information for stationary engineers and other persons who are concerned with purchasing or burning fuel oil. The book is by no means exhaustive, but it includes practically all of the information that may be needed by purchasing agents, building superintendents, and engineers responsible for the handling of fuel oil in large heating installations and power plants. There are 34 tables of data on such matters as temperature volume corrections, kinematic and Saybolt viscosity conversions, heating values in relation to A.P.I. gravity, salt content of fuel oils, and fuel oil specifications.

SMITH MARION L., AND KARL W STINSON
Fuels and combustion. New York Mc Graw Hill Book Company Inc. 1952 340 p. illus. 24 cm. $6.50 2361

Contents: Fuels. Stoichiometric analysis. Thermochemical analyses. The process of combustion. Physical properties of fuels. Gas and oil burners. Coal-burning equipment. Combustion in engines. Index.

Note: A college textbook in which is combined a description of the common fuels, an exposition of the chemical and physical bases of combustion, and descriptions of the chief fuel-burning devices including internal combustion engines. The authors have assumed familiarity with basic engineering and chemical terminology and with elementary engineering mathematics on the part of their readers. Problems for the student to solve and literature references are included. The authors are members of the faculty of Ohio State University.

STEINER, KALMAN
Oil burners. Second edition. New York McGraw Hill Book Company Inc., 1950 502 p. illus. 23 cm. $6.50 2362

Contents: Hydrocarbons and petroleum. Fuel oil. Combustion of fuel oil. Comparative fuel data. Problems of oil burner design. Shell- and pot-type burners. Domestic oil burners. Horizontal rotary burners. Industrial oil burners. Fans and electric motors. Electric control devices. Electric control systems. Ignition methods. Fuel-oil pumps. Oil piping, strainers, and flow regulators. Capacity of boilers and warm air furnaces. Refractories. Draft and combustion control. Oil preheating. Oil storage tanks and gauges. Service and maintenance. Control of the heating system. Appendix. Index.

Note: (4012) A comprehensive survey of practical and engineering aspects of oil fuel and oil burners. A wide range of equipment is described, but the descriptions are incidental to the presentation of fundamental principles and data. Both residential and industrial burners are covered, but somewhat more attention is given to industrial types. Although the book contains material of interest to oil burner repairmen, it appeals particularly to engineers and power plant supervisory personnel. It is also useful as a reference book for architects, builders, and others who need technical information. The present edition represents a thorough revision.

HEATING VENTILATING AND AIR CONDITIONING

ADLAM THOMAS NAPIER
Radiant heating: a practical treatise on American and European practices in the design and installation of systems for radiant, panel, or infra red heating, snow melting and radiant cooling, including step-by-step procedure, with typical problems solved by the application of simplified working data, charts *and tables. Second edition, revised and enlarged.* New York The Industrial Press 1949 504 p. illus. 24 cm. $6.00. 2363

Contents (abridged): Theory of heat radiation. Artificial heating as related to bodily heat losses. The measurement of comfort. Temperature studies in radiant heated rooms. Radiant heating with ceiling panels. Radiant heating with floor panels. Wall, baseboard, electrical, and metal panels. Controls for radiant heating. Areas and surface temperatures of radiant heat panels. Determining panel pipe size, spacing and heat input. Radiant cooling and air conditioning. Snow melting by embedded pipes. Step-by-step procedure in radiant heating design. Index.

Note: A comprehensive manual designed for architects and heating engineers in need of technical information relating to the design of radiant heating systems. The present edition is 32 pages longer than the first edition published in 1947. New material is found on the design and construction of ceiling, floor, and wall panels, and there are several new coil-dimensioning charts. There is no bibliography.

ADLAM THOMAS NAPIER
Snow melting. New York The Industrial Press 1950. 224 p. illus. 23 cm. $4.50. 2364

Contents (abridged): Feasibility and cost of removing snow by melting. Snow melting test data and test set-ups. Calculating the heat required for snow melting. Pipe friction and expansion in snow melting systems. Antifreeze solutions and their use in snow melting systems. Automatic controls for starting system when snow begins to fall. Air venting and flow adjusting. Snow melting systems applied to roads and driveways. Snow melting systems applied to sidewalks. *Special and dual-purpose* applications of snow melting. Costs to install and operate snow melting systems. Design procedure and charts for pipe sizing and spacing. Index.

Note. The use of embedded hot water coils and electric cables for melting snow on driveways and sidewalks was briefly discussed by the author in his work *Radiant heating* (see above). In this volume he provides detailed information regarding design, construction, and installation and operating costs of such installations. These data, and the methods of calculating heat requirements, should be of value to anyone contemplating the installation of such a system, but the book is intended primarily for engineers. A considerable variety of systems already built and operating are described and illustrated.

CARRIER, WILLIS HAVILAND AND OTHERS
Modern air-conditioning heating and ven tilating by Willis H. Carrier Realto E. Cherne and Walter A. Grant. New York Pitman Publishing Corporation, 1950. 574 p illus. 26 cm. $10.00 2365

Contents: Introduction. Psychrometrics and comfort. Estimating requirements. Economics. Heat producing equipment. Heat-distributing equipment. Steam heating systems. Hot-water heating systems. Automatic controls and zoning for heating. Fans, heaters, and ventilators. Air-cleaning devices and humidifiers. Design of air-duct systems. Cooling and dehumidification. Central and unit systems. Refrigeration systems and equipment. Refrigeration piping. Air distribution and zoning. Automatic controls for air conditioning. Noise and vibration. Application practice. Residential heating and air-conditioning systems. Appendix. Air-conditioning glossary. Index.

Note: (4030) A standard treatment from the practical standpoint. It is suitable for use as a self-instruction text as well as a reference manual for practicing engineers, architects, and others in the field. The most obvious change in the present edition lies in the improved format of the volume. The page size is larger and the typographical design of text, tables, and charts is more pleasing. Revisions in contents include a new section on radiant and panel heating and expanded discussions of oil burners and air-cleaning devices, and the rewriting of the chapter on psychrometrics.

DALLA VALLE JOSEPH MARIUS
Exhaust hoods. Second edition revised and enlarged. New York The Industrial Press, 1952 146 p. illus. 24 cm. $3.50. 2366

Contents: Theory of flow of gases into an opening. Velocity characteristics of common types of unobstructed openings. Velocity contours of hoods with special boundary conditions. Criteria for determining hood effectiveness. Canopy type hoods. Hoods for dust and mist control—total enclosures and screening. Hoods for dust control—partial enclosures for grinding. Hoods for dust control—miscellaneous. Hoods for control of fumes, vapors and gases. Booth-like structures for fumes, vapors and gases. Grille-type openings under suction. Hoods for woodworking machinery. Examples of hood design calculations. Hood entrance losses. Essentials of hood construction. Index.

Note. A practical work on the design and uses of hoods and canopies used to carry off dusts, fumes etc. generated during manufacturing and other processes. It is based on laboratory research and practical design experience and includes discussions of both the aerodynamic aspects and the practical ones. Typical hoods for a variety of applications are illustrated. The first edition appeared in 1943. Substantial revisions, several new chapters, and a number of new illustrations have been incorporated in this edition.

EMERICK, ROBERT HENDERSON

Heating design and practice. New York McGraw Hill Book Company Inc. 1951 453 p. illus. 24 cm. $9.00 2367

Contents: Terms and definitions. How heating loads are calculated. Designing a steam heating system. Heating boilers and steam generators. Designing a hot water heating system. Boiler firing equipment. Water heaters and how to size them. Designing a warm air heating system. Panels, baseboards, and wall heaters. Fans and filters. Space heaters, domestic and industrial. District steam heating. The heat pump. Fuels and fuel handling. Combustion. Chimneys, stacks and flues. Heat insulation and refractories. Fireplace design and performance. How to choose a heating system. Instruments and instructions. Specifications and the analysis of bids. Index.

Note. A practical, largely descriptive book for such readers as vocational school students and men who design or install heating systems. Residential heating equipment such as is currently used in the United States of America is emphasized, but there is some discussion of larger equipment. A special feature is the inclusion of information on new developments such as the heat pump and panel heating. A range of data useful in practical design is included. There are many illustrations but no bibliography.

HOLMES, RICHARD E.

Air conditioning in summer and winter. Second edition. New York McGraw Hill Book Company Inc. 1951 352 p. illus. 24 cm. $6.00 2368

Contents. Air conditioning and the atmosphere. Psychrometry. Requirements for comfort. Air-conditioning systems. Winter air conditioning load—air-infiltration heat loss—heat transmission loss—total heating and humidifying load. Heating systems. Humidifiers. Air filters. Application of winter air-conditioning equipment. Introduction to refrigeration principles. Refrigerants and refrigerant tables. Refrigeration systems. Compressors. Condensing equipment. Low-side equipment. Dehumidifiers. Field-assembled systems. Self-contained air conditioners. Summer air-conditioning load. Application of summer air-conditioning equipment. Temperature and humidity controls. Index.

Note. (4048) A textbook and self-instruction book written for installers, maintenance men, salesmen, and other persons who need an elementary practical treatment. The fundamentals of the subject are covered and typical apparatus is described. The first edition was published in 1938. Many changes and additions were made in preparing this edition, including a somewhat more technical treatment of such topics as the refrigeration cycle.

JENNINGS, BURGESS HILL, AND SAMUEL R. LEWIS

Air conditioning and refrigeration. Third edition. Scranton Pa. International Textbook Company 1950 606 p. illus. 23 cm. $7.50 2369

Contents (abridged). Fundamental definitions: heat and thermodynamics. Air and humidity calculations. Air conditioning for human comfort. Heat transfer and transmission coefficients. The heating load. Cooling load computations. Steam heating. Hot-water heating. Warm-air heating. Heat-transfer elements. Boilers, fuels, and combustion. Air cleaning. Principles of refrigeration and refrigerants. Control of air-conditioning refrigerating apparatus. Industrial air conditioning. Radiant or panel heating. Index.

Note. (4048a) A successful textbook for upperclass engineering students. The presentations of theory and practice are well balanced. There is special emphasis on data and procedures that are useful in the practical design of heating, air-conditioning, and refrigerating installations. The authors' style is simple and direct enough to make the book suitable for reference and home study by practical men at work in the industry. Many new data have been added in this edition, and there are new or amplified discussions of such topics as the heat pump and radiant heating.

KEMLER, EMORY NEUDECK, AND SABERT OGLESBY, JR.

Heat pump applications. New York Mc Graw Hill Book Company Inc., 1950. 300 p. illus. 24 cm. $6.50. 2370

Contents. Introduction. Commercial heat pump installations. Industrial heat pump installations. Residential installations. Thermodynamics of refrigerants and cycles. Heat pump cycles. Heat sources. Compressors. Fans and ducts. Electric motors. Heat exchangers. Accessories. Temperature and design data. Storage and hot-water units. Patent abstracts. Index.

Note. A technical survey of the status of heat pump engineering, especially in applications to commercial and residential heating, as of the year 1949. It is addressed to such readers as refrigeration and heating engineers. It is drawn partly from the literature and partly from the authors' own work in the field. Particular attention is given to describing the solutions which have been attempted to such problems as the capacity control of compressors under the conditions imposed on heat pumps in average installations. Short bibliographies are included in the chapters. The chapter on patents contains abstracts of 34 United States patents.

NORRIS, JOHN W.

Warm air heating and winter air conditioning. Second edition. New York McGraw-Hill Book Company, Inc., 1950 320 p. illus. 18 cm. $8.50 2371

Contents (abridged). Different types of heating systems described. Measuring heat losses from buildings. Designing a gravity warm air heating system. Winter air conditioning of residences. Adjusting, balancing and servicing winter air conditioning systems. Humidity and the properties of air. Air cleaning. Thermostatic control of warm air heating. Coal furnaces—their installation, operation and care. Gas furnaces—adjustment, operation and service. Oil furnaces and oil burners. Converting gravity furnaces to winter air conditioning. Converting coal furnaces to automatic fuel. Industrial and commercial warm air installations. Solid fuels and their combustion. Chimneys and flues. Useful tables. Index.

Note. An excellent practical manual on this popular type of residential heating. It is addressed to heating contractors, furnace installers and other persons, such as salesmen, who are connected with the heating business. Although it is rather large and detailed volume for the average homeowner who merely wants to know how to operate a heating plant efficiently, information on efficient operation is included. The authors' style reads easily and his discussions are appropriately full. There are hundreds of illustrations, and more than 50 tables of data useful in the heating field. The author is president of the Lennox Furnace Company and the first edition of the book was published by that firm.

SEVERNS, WILLIAM HARRISON, AND JULIAN R. FELLOWS

Heating ventilating and air-conditioning fundamentals. Second edition. New York John Wiley & Sons, Inc., 1949 666 p. illus. 24 cm. $6.50. 2372

Contents (abridged). Essential definitions, laws, and properties of various media. Psychrometric properties of air—humidification and dehumidification. Factors affecting human comfort. Heat transmission and heat losses from buildings. Heating with warm-air furnaces. Heating with steam. Heating boilers and appurtenances. Heating and distribution, heat with hot water. Panel heating. Air conveying and distribution. Mechanical duct design, and diffusion. Ventilation and air purification. Estimation of [illegible] to cooling and heating [illegible] cooling loads. All-year air-conditioning methods and equipment. Automatic controls—pressure, temperature, and humidity. Appendix. Index.

Note: (4071) Primarily this work is an engineering college textbook. Besides its textbook use, it has some value as reference book for such persons as heating contractors, architects, and engineers. For this audience it provides concise and authoritative descriptions of modern design procedures and typical present-day heating and cooling equipment. Very substantial changes, including large amount of newly added material, appear in this second edition.

REFRIGERATION

ALTHOUSE, ANDREW DANIEL, AND CARL H. TURNQUIST

Modern electric and gas refrigeration. Fifth revised and enlarged edition. Chicago The Goodheart Willcox Company Inc., *1950 945* p. illus. (part col d) 20 cm. $5.00 2373

Contents: Fundamentals of refrigeration. The compression system. The absorption system. Conventional domestic compression cycle refrigerators. Domestic rotary and hermetic compression cycle refrigerators. Domestic absorption refrigerators. Domestic automatic controls. Domestic refrigerator electric motors and gas supply. Domestic refrigerator cabinets. Domestic refrigerator installations. Domestic refrigerator servicing. Service tools and the refrigerator service shop. Commercial refrigeration cabinets and mechanisms. Commercial refrigeration calculations and heat loads. Commercial refrigeration installation and servicing. Refrigerants. Technical characteristics. Air conditioning. Domestic refrigerator specifications. Hermetic units. Frozen food refrigerators. Answers to review questions. Index.

Note: (4071) Since 1933 when the first edition was published this book has been used in vocational schools and elsewhere as text for men who are preparing to work at the maintenance and repairing of small refrigerators such as are used in homes and small commercial units. The emphasis is on the residential or domestic types, but the three chapters on commercial types are sufficiently inclusive to enable repairmen experienced in domestic types to perform at least elementary operations on commercial types. In the present edition the two chapters on hermetic units and frozen food refrigerators are new. However, it appears that the chapters that precede these have not been revised. For instance, the table of the properties of refrigerants on page 193 does not include Freon 22 even though there is table of the properties of this newer refrigerant on page 779.

KING GUY R.

Basic refrigeration principles, practice operation a simplified presentation of the fundamentals of refrigeration giving equal treatment to all common refrigerants. Design, operation, and servicing of the apparatus and system. Chicago Nickerson & Collins Co., 1951 526 p. illus. 24 cm. $6 00 2374

Contents. Fundamentals Compression system of refrigeration. Refrigerants. Expansion valves Evaporators. Compressors. Condensers. Flow equipment. Electric controls and control valves. Lubrication. Defrosting methods. Compressor drives. Food preservation. Operating. Servicing. Refrigerated enclosures Instruments and meters. Heat calculations. Humidity in refrigeration. Compressor calculations. Refrigerant lines—pressure drops. Brine in refrigeration. Liquid cooling Complete systems. Carbon dioxide—dry ice. Altitude and its effect. Absorption systems. The refrigeration code. Appendix: Tables. Calculating overall heat leakage factors. Answers to problems in questions. Index.

Note: An introductory textbook designed for use in vocational schools and for home study by men interested in the trade of installing and maintaining refrigerating systems. Although both commercial installations and small household refrigerators are discussed, the larger systems are emphasized. The types and properties of refrigerants, the elements of refrigerating systems, such as condensers, and special problems, such as the exclusion of moisture from insulation, are all discussed clearly. Typical calculations are worked out. Numerous helpful tables of data are included.

MCCORMACK, ALEXANDER A.

Cold logic (refrigeration principles) Chicago Nickerson & Collins Co 1949 212 p. illus. 24 cm. $3.50 2375

Contents: The "how" and "how much" of heat. Refrigeration as the removal of heat. The refrigeration cycle. The story of refrigerants. Evaporators (often called coils or boilers). Lubrication. Compressors. Condensers, receivers, interchangers and valves. Insulation. Introduction to air conditioning. Air conditioning calculations. Electricity's contribution to refrigeration. Applying theory to service work. Topical index. Index to illustrations.

Note: A self-instruction aid for men working in the refrigeration maintenance trade. The author endeavors to make the principle of refrigeration and the behavior of refrigerating machines clear to such readers. His explanations are clear without being oversimplified. Each chapter is supplemented by review questions and helpful discussions of them. The book is useful supplement to full scale introductory texts and to the service manuals issued by manufacturers.

MACINTIRE, HORACE JAMES AND F W HUTCHINSON

Refrigeration engineering. Second edition. New York John Wiley and Sons, Inc. 1950 610 p. illus. 23 cm. $6.50. 2376

Contents (abridged) Part I, Thermodynamics of reversed cycles: Energy relationships in refrigeration. Simple refrigeration cycles. Thermodynamic refinements of the simple refrigeration cycle. Special systems—the heat pump. Adsorption and absorption systems—diffusion refrigeration. Refrigerants and properties of saturated and superheated vapors. Part II, Load determination: Steady-state load calculation. Transient loads. Radiation—panel cooling. Psychrometric loads—air conditioning methods. Part III, Refrigeration equipment: Compression refrigerating machines. Automatic refrigerating machines—household machines. Erection, operation, testing. Cold storage. Ice manufacture—dry ice. Special applications of refrigeration engineering. Index.

Note. An engineering college textbook which is introductory in the sense that no previous education or experience in refrigeration on the part of the reader has been assumed. However, it is designed to prepare students for practical work in refrigeration engineering, and the treatment is full enough for this purpose and also to make the book useful to graduate engineers. Most of the text is devoted to discussions that practicing engineers would be concerned with in the selection or design of refrigeration equipment. In deference to the professional use of the book, the range of data presented in graphs and tables has been greatly extended in this edition. Other new matter includes treatment of the heat pump and practical design procedure for panel cooling systems.

SHARPE, NORMAN

Refrigerating principles and practices. New York McGraw-Hill Book Company, Inc., 1949 398 p. illus. 23 cm. $7.00 2377

Contents. The refrigeration load. Properties of refrigerants. Refrigeration cycles. Compressors and their lubrication. Heat transfer equipment. The expansion valve and the accumulator. Accessories. Piping for refrigerating systems. Motors and their controls. Refrigeration applications. Appendixes: Commercial storage of fruits and vegetables. Internal energy of fluid. Transferred heat. Pressure and volume relations for adiabatic compression. Work required for adiabatic compression. American standard safety code for mechanical refrigeration. Index.

Note: An introductory textbook for use in undergraduate engineering courses. It is designed so as to prepare the student for practical work in refrigeration engineering. Thorough explanations of theory are integrated by means of the text and problems with illustrations of practical applications. The discussions of modern refrigeration practices include such minor details as various methods of defrosting. Although much of the general material is applicable to household refrigerators, there is no specific discussion of that type of refrigerating plant, such as there is of larger plants used for cold-storage cooling and commercial ice-making.

MINING ENGINEERING

GENERAL

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Coal preparation. Edited by David R. Mitchell. Sponsored by the Seely W Mudd Memorial Fund Second edition. New York The Institute, 1950. 830 p. illus. 23 cm. $8 00. 2378

Contents. Economics of coal preparation, by J. R. Morrow and D. H. Davis. Characteristics of coal and its associated impurities, by H. F Yancey and others. Sampling, by T W Guy and R. E. Zimmerman. Use specifications for coal, by J. H. Kerrick and others. Screening, by T Fraser and J R. Johnson. Breaking and crushing, by C. S. Jenkins and H. W Riley. Preparation at the face, by J. D. Connor and M. H. Forester. Hand picking, by D H. Davis. Principles of gravity concentration, by R. D. Thomas. Coal washers of the chamber type, by J. Griffen. Launder washers, by C. P Proctor and J. T Crawford. Jigs, by B M. Bird and D R. Mitchell. Concentrating tables, by R. W Gandrud. Dense-media processes, by B. M. Bird and D. R. Mitchell. Pneumatic coal cleaning, by R. C. Carns and D R. Mitchell. Flotation, by R. E. Zimmerman. Miscellaneous processes, by D. R. Mitchell and R. B. Hoven. Slurries, sludges, slimes and water treatment, by F P Lounder and others. Dewatering and thermal drying, by O. R. Lyons. Dedusting and dust collection, by T L. Garwood and F C. Mank. Treatment of coal surfaces, by R. A. Sherman and J. M. Pilcher. Plant control and efficiencies, by R. E. Zimmerman. Loading, by D R Mitchell and T Fraser. Index.

Note. (4111a) A comprehensive treatise on the processing of coal from the time it is separated from the native seam to its loading for delivery to the consumer. American methods are described almost exclusively. The book is useful to advanced students of mining engineering who are preparing for the coal industry and to men actively engaged in this industry. Many illustrations of equipment and many tables of data supplement the discussions. In the present edition two entirely new papers have been substituted for two papers that appeared in the original edition published in 1943. Most of the other papers have been revised somewhat, and about half a dozen of them have been revised extensively. Some, but not all, of the bibliographies have been brought down to date.

BATEMAN, ALAN MARA

The formation of mineral deposits. New York John Wiley & Sons Inc. 1951 371 p. illus. 24 cm. $5 50. 2379

Contents. Introduction. Materials of mineral deposits. Brief history of evolution of ideas on the origin of mineral deposits. Relation of mineral deposits to igneous activity. The primary mineralizing solutions. The processes of formation of mineral deposits. Magmatic processes. Contact metasomatic processes. Hydrothermal processes. Sedimentary processes and cycles. Weathering processes. Metamorphic processes. Ground-water processes. Controls of mineral localization. Exploration and exploitation of mineral deposits. Mineral resources. Additional general references. Appendix. Geological time table. Glossary. Index.

Note. In this new book the author has covered much of the same ground and used some of the same material as in his *Economic mineral deposits*, described there. However here he has written for adult general readers rather than advanced college students and specialists. What is known about the origin of mineral deposits is presented in clear nontechnical style. There is also some discussion of the economic importance of minerals.

CRAIN HARRY M editor

Economics of the mineral industry Golden Col. Colorado School of Mines, 1950 47 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 1A) Paper $0.50 2380

Contents: Mineral resource appraisal by the U. S. Geological Survey, by S. G. Lasky. Oil and human welfare, by M. W Ball. Gold, our most strategic mineral, by D. H. McLaughlin.

—— Petroleum refining. Golden Col. Colorado School of Mines. 1950 162 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no 2A) Paper $2.00. 2381

Contents: The cracking of petroleum, by E. W Isom. The commercial dehydrogenation of normal butane, by H. L. Hays and E. Dobson. Ethylene production by thermal cracking of propane-ethane mixtures, by C. K. Buell and L. J. Weber. Petroleum refining instrumentation, by H. M. Schmitt. Research in the petroleum industry—today and tomorrow, by C. K. Viland. Low temperature distillation assays of representative western U. S. and Alaska coals, by V F Parry and others.

—— Metallurgy Golden Col. Colorado School of Mines 1950. 60 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no 3A) Paper $0.50 2382

Contents The trend of iron-ore concentration in the Lake Superior district, by E. C. Bitzer. Utilization of fuels, by C. E. Lesher. Current research in physical metallurgy, by E. R. Parker. Metallurgical materials in the coal-mining industry, by C. S. Thomas.

—— Geophysics. Golden Col. Colorado School of Mines 1950 103 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 4A) Paper $1 00. 2383

Contents: The relationship of research and field operations in seismic exploration, by C. H. Green. Geological imagination in the interpretation of geophysical data, by R. C. Coffin. Current trends and progress in mining geophysics, by H. Lundberg. Recent developments in electrical logging and auxiliary methods, by H. G. Doll and M. Martin. Recent developments in seismic research, by D. H. Clewell. Recent developments in gravity prospecting, by S. Hammer.

—— Applied geology a symposium. Compiled and edited by F M Van Tuyl and T H. Kuhn. Golden, Col. Colorado School of Mines 1950 343 p illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45, no. 1B) Paper $3 00 2384

Contents The petroleum geology of Colorado, by C. E. Dobbin. Modern methods in petroleum exploration, by G. F Kaufmann. Applications of geology to the investigation of our water resources, by A. N Sayre. Applications of geology in soil conservation, by D. H. Griswold. Geology and irrigation engineering, by E. D. Dorsmeyer Jr. Applications of geology to highway engineering, by S. R. Horner and J. D McNeal. A tribute to the early workers in Colorado geology, by B. S. Butler. Problems in the relation of ore deposits to hydrothermal alteration, by G. M. Schwartz. The fumarole-hot spring and "epithermal" mineral deposit environment, by H. Schmitt. The geochemistry of argillic and related types of rock alteration, by T S Lovering. Interpretation of wall-rock alteration at Butte, Montana, by R. H. Sales and C. Meyer. Discussion of alteration and its applications to ore search: metasomatic alteration along veins, by B. S. Butler. Problems of wall-rock alteration in shallow volcanic environments, by W S. Burbank. Discussion of alteration and its application to ore search, by P F Kerr.

—— Coal and metal mining. Golden Col. Colorado School of Mines 1950. 381 p illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 2B) Paper $3 00. 2385

Contents. Opportunity in the field of coal mining engineering, by H. C. Woods. Mechanization of Western coal mines, by J. Crummer. Economics and technique of strip coal mining, by R. F. Kenny. Trends of continuous coal mining underground, by W L. Wearly Up-grading Missouri Basin coals by flash drying, by V F Parry and E. O. Wagner Coal and its future, by L M. Charles. Synthetic oil from coal, by J D Doherty Metal mining: review of progress in the ventilation of the mines of the Butte, Montana, district, by A. E. Richardson. Safety in the mining industry by D Harrington. Transportation of ore underground, by C. L. McWhorter. Mine valuation, by C. L Dimmett. Seventy five years of rock-drill progress, by M. L. McCormack. Explosives in the mining industry by J. H. East. Short-interval-delay blasting in underground operations, by C. L. Becker Mining practice at the Climax molybdenum mine, by W K. McGlothlin.

—— Petroleum engineering. Golden, Col. Colorado School of Mines, 1950 51 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no 3B) Paper $0.50 2386

Contents: Gas-condensate fields, by W K. Brown. The evaluation of oil properties for secondary recovery by R. C. Earlougher. Secondary recovery of petroleum, by P D Torrey Petroleum conservation and conservation laws, by D. V Carter

—— Industrial minerals. Golden, Col. Colorado School of Mines, 1950 44 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 4B) Paper $0.50. 2387

Contents: Industrial minerals of Colorado, by G. O Argall, Jr The consumption of balls in wet ball milling, by C. H. Knight and Donald Dyrenforth. Ground water in Nevada, by T W Robinson. Searles Lake development, by R. W Dyer.

Note: Together the volumes listed above constitute the seventy-fifth anniversary volume of the Quarterly and they bear collective title "Mineral resources in world affairs. The papers contained in them are original, and were written by outstanding geologists and other men who are associated with geology mining, and petroleum in the United States of America. Generally speaking the articles do not contain reports of original research but are, instead, summaries of modern developments or descriptions of the current state of affairs.

HARRINGTON DANIEL AND OTHERS

Safety in the mining industry by D Harrington J H. East, jr., and R. G Warncke. Washington D C. Government Printing Office, 1950. 102 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 481) Paper $0 40. 2388

Contents: Introduction. Coal mining. Bituminous coal and lignite. Anthracite Metal and nonmetallic-mineral mines. Quarrying. Petroleum industry Health of miners. Trend of fatal accidents in the mining industries. Résumé and conclusions.

Note: The mining industry of the United States has been severely criticized because of its high rate of accident occurrence, both in comparison with other industries in the United States and in comparison with the mining industries of other nations. This bulletin gives annual figures in various categories, some of them going back to 1906, to show trends and improvements Information is provided concerning some accidents and their causes. The effects of new mining methods, mechanization, and other advances in mining are reflected in the statistics, which are shown on both tonnage and man-hours of exposure bases where possible.

JOHNSON, JESSE HARLAN

An introduction to the study of organic limestones. Revised edition. Golden, Colorado Colorado School of Mines, 1951 185 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 46 no 2) Paper, $2.00. 2389

Contents: Foraminifera. Porifera-sponges. Coelenterata. Echinoderma. Bryozoa. Worms and worm limestones. Brachiopoda. Mollusca. Arthropoda. Calcareous algae.

Note: An illustrated guide designed to serve as an introduction to the study of organic limestones. For each of the ten groups discussed there are introduction and list of bibliographical references, together with notes as to chemical composition, structures, chief divisions, and descriptions of the major deposits. A feature of the publication is the set of 104 photographic plates showing the various types of calcareous organic debris to assist in recognition.

LEROY LESLIE WALTER, editor

Subsurface geologic methods (a symposium) Second edition Golden Colorado School of Mines, Department of Publications, 1950 1156 p illus. 24 cm. $7.00 2390

Contents (abridged) Introduction. Stratigraphic, structural and correlation considerations. Comments on sedimentary rocks. Subsurface laboratory methods. Subsurface logging methods. Miscellaneous subsurface methods. Secondary recovery of petroleum. Valuation and subsurface geology Duties and reports of the subsurface geologist. Graphic representations. Subsurface maps and illustrations. Subsurface methods as applied in mining geology Subsurface methods as applied in geophysics. Geologic techniques in civil engineering. Sources of well information. Author index. Subject index.

Note: A collection of more than 80 papers, written by 50 authors, on such geological techniques as microanalysis of rock, X-ray analysis, sampling of well cuttings, electric logging, radioactivity in well logging and on related non geological subjects such as oil well surveying, design of rock bits, oil well cementing, and oil field valuation. Some of the material has been published previously but considerable part was prepared especially for this volume. The first edition was published in 1949 Several papers have been added to this edition and the index is new feature that will be much appreciated in libraries.

STALEY WILLIAM WESLEY

Mine plant design Second edition. New York McGraw Hill Book Company Inc. 1949 540 p. illus. 24 cm. $8 00. 2391

Contents: Graphical solution of simple beams and roof trusses. Review of simple design principles. Roof trusses, columns, and footings. Headframes. Ore bins. Skips and cages. Safety catches. Mine hoists. Handling of water for mining purposes. Compressed air. Mine hoisting. Power plant. Mine ventilation. Index.

Note (4097) A standard work which is used both as textbook in engineering colleges and as guide for mine operators and engineers, particularly those located in isolated areas who must design structures and equipment with little aid from other sources. Only equipment used above and below ground in mining and handling ores is covered. Ore crushing and concentrating machinery are not discussed. In this edition chapters have been added on ore bins, skips, cages, and other topics, and the chapter on headframes has been revised to include the design of wooden structures. The chapters are supplemented by fairly extensive lists of references, and some of these have been revised.

STEIDLE EDWARD

Mineral forecast 2000 A.D State College, Penn. The Pennsylvania State College, 1952 216 p. illus. 24 cm. $3.00. 2392

Contents (abridged) Part one, Minerals and posterity Part two, Mineral forecast 2000 A.D.: Mineral fuels. Metallic minerals. Nonmetallic minerals. Geology group. Metallurgy Mineral economics. Mineral extraction. Mineral preparation. Water supplies. Atomic energy Mineral industries education. Mineral policies. Conclusions.

Note A readable account of the present state and the possible future of our mineral supplies. The first part, originally published as Circular 37 by Pennsylvania State College, points out the dependence of the United States on other countries for many of the most strategic minerals and suggests the need for "down-to-earth mineral policies. The second part, published as Circular 39 is intended to show how education and research can help offset the shortage by developing new methods for utilization or even of synthesis of the important minerals. Each mineral is treated separately and, while Pennsylvania's part is emphasized from time to time, the national picture is clearly delineated.

TAGGART, ARTHUR FAY

Elements of ore dressing. New York John Wiley & Sons Inc., 1951 595 p illus. 24 cm. $11.00. 2393

Contents: What ore dressing is and does. Hand picking. Screening and filtration. Electrical concentration. Introduction to sedimentation. Acceleration in free-settling. Introduction to gravity separation. Hindered-settling. Sink-float. Jigging. Film and trough concentrators. Shaking concentrators. Organic chemicals in flotation. Flotation: collection—activation and depression—bubble attachment—flotation machines and reagents—operation. Miscellaneous methods of concentration. Primary crushing. Secondary crushing. Grinding. Transport and controls. Flowsheets. Appendix. Abbreviations in bibliographies. Index.

Note. (3085*) Professor Taggart's *Handbook of mineral dressing* serves as basic reference manual covering all phases of ore and mineral separation and concentration. This new work is less exhaustive treatment of the same subject, and is designed to introduce mining engineering students to current methods of ore processing and preparation. Theory and practice are closely integrated, and descriptions of machines and processes are interwoven with discussions of the fundamental principles underlying the design and operation of each type of equipment. The appendix includes series of laboratory experiments which have been used in ore dressing courses at Columbia University

VACQUIER V AND OTHERS

Interpretation of aeromagnetic maps. By V Vacquier Nelson Clarence Steenland Roland G Henderson, and Isidore Zietz. New York The Geological Society of America, 1951 151 p illus. 26 cm. (Geological Society of America. Memoir 47) $2.25 2393a

Contents. Foreword. General principles. Results of interpretation of six aeromagnetic surveys. Calculation of total magnetic intensity anomalies due to idealized bodies. Tables and charts for computations of magnetic effects. References cited. Index.

Note: In this work practical method for the interpretation of aeromagnetic maps based on data gathered with the airborne magnetometer is described and the application is illustrated by applying it to the interpretation of the maps of six different aeromagnetic surveys. The book is addressed to professional geologists and is of special interest to those who are associated with prospecting for mineral deposits including petroleum. The illustrated material includes reproductions of variety of aeromagnetic maps.

ECONOMIC GEOLOGY

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Industrial minerals and rocks (nonmetallics other than fuels) Second edition completely revised. New York The American Institute of Mining and Metallurgical Engineers, 1949 1156 p illus. 24 cm. (The Seeley W Mudd series) $7.00. 2394

Contents Introduction, by R. H Dolbear Abrasives, by R. B Ladoo. Asbestos, by O F Jenkins. Barium minerals, by F J Williams. Bauxite, by E. C. Harder Bentonite, by P Bechtner Bleaching clay by A. D. Rich. Borax and borates, by G. A Connell. Cement materials, by W M. Myers. Chalk and whiting, by H. Wilson. Chromite, by W D. Johnston, Jr and T P Thayer Clay by H Ries. Crushed stone, by A. T Goldbeck. Diatomite, by A B Cummins and H Mulryan. Dimension stone, by O Bowles. Feldspar, by B. C. Burgess. Secondary fertilizer minerals, by J. W Turrentine. Fluorspar and cryolite, by H T Mudd. Corundum, by G. W Josephson. Graphite, by G. E Cruikshank. Gypsum, by T. R. Lippard. Heat and sound insulators, by J. E Lamar and J A Machin Lime, by M. C. Rockwood. Lithium minerals, by R W Mumford Magnesite and related minerals, by R E Birch and O. M Wicken. Manganese ore, by G. H. Chambers. Mica, by E H Dawson. Mineral fillers, by A B Cummins. Mineral pigments, by C. L. Harness. Minor industrial minerals, by P M Tyler Monazite, by J R. Martin, Jr. Native bitumens, by A. H. Redfield. Nitrates and nitrogenous compounds, by H. R. Graham Phosphate rock, by C. A Fulton. Potash, by H. I. Smith Pumice stone, by S. H. Ball Pumice and pumicite, by J. A. Barr Jr Pyrophyllite, by R. C. Burgess. Quartz crystal, by R. B. McCormick. Refractories, by P M. Tyler and R. F Heuer Salt, by W C. Phalen. Sand and gravel, by R. Newberg. Sillimanite group—andalusite, kyanite, sillimanite, dumortierite, topaz, by F H. Riddle and W R. Foster. Slate, by C. E. Behre, Jr. Natural sodium carbonate and sodium sulphate, by G. C Ralston. Special sands, by H. Ries. Strontium minerals, by C. L. Harness. Sulphur and pyrites, by W T Lundy. Talc and ground soapstone, by A. E. J Engel. Titanium, by J. L. Gillson. Tripoli, by R. W Metcalf. Vermiculite, by J. R. Myers. Index.

Note: A standard reference book. For each of the materials named in the contents, the following points are, in general, covered: composition, properties, origin and mode of occurrence, world distribution of deposits, political and commercial control, production and consumption, prospecting and exploration, mining and quarrying methods, preparation for market, uses, and price history. Each chapter is supplemented by an extensive bibliography. Much revision and rewriting went into the preparation of this edition. All of the statistical and economic data have been brought down to date, and the bibliographies have been revised and extended to include recent literature.

BATEMAN, ALAN MARA

Economic mineral deposits. Second edition. New York John Wiley & Sons, Inc., 1950. 916 p. illus. 23 cm. $8.00. 2395

Contents (abridged) Part I, Principles and processes: Brief history of the use of minerals and of the development of economic geology. Magmas, rocks, and mineral deposits. Processes of formation of mineral deposits. Controls of mineral localization. *Folding* and faulting of mineral deposits. Classification of mineral deposits. Geophysical prospecting, exploration, development, and valuation of mineral properties. Extraction of metals and minerals. Part II, Metallic mineral deposits. The precious metals. The nonferrous metals. Iron and ferroalloy metals. Part III, Nonmetallic mineral deposits. The mineral fuels. Ceramic materials. Structural and building materials. Metallurgical and refractory materials. Chemical minerals. Ground-water supplies. General references on economic geology. Index.

Note (4103) Although this book contains wide variety of information on minerals of economic importance, it is written mainly from the standpoint of ore genesis. In the first part the processes of formation of ore bodies are discussed at length. In the second and third parts, known mineral deposits are concisely described except in cases of minerals too widely distributed, such as lime. The descriptions include both mineralogical and economic data. The book is useful both as textbook and reference book. In this edition the reference lists have been brought down to the end of 1948 and the text has been revised in numerous places; but there is less emphasis on statistical data, especially statistics of mineral production. The author's *The formation of mineral deposits*, New York, Wiley, 1951 371 p., $3.50, is a less technical presentation for lay readers and nonspecialists.

BROWN GLEN FRANCIS AND OTHERS

Geologic reconnaissance of the mineral deposits of Thailand prepared in cooperation with the Royal Thai Department of Mines, under the auspices of the Technical Cooperation Administration of the United States Department of State by Glen F Brown Saman Buravas Jumchet Charaljavanaphet Nitipat Jalichandra, William D Johnston, Jr Vija Sresthaputra, and George C. Taylor Jr Washington D C. Government Printing Office, 1951 183 p. illus. 23 cm. (Geologic investigations of Asia. United States. Geological Survey Bulletin 984) Paper $2 50. 2396

Contents Introduction. Geography: Political divisions. [illegible] available. Climate. *Physiography:* Land forms. Drainage pattern. Physiographic provinces. Geology: Rock units. Geologic structure and history. Metallic mineral deposits: Antimony. Copper. Gold. Ilmenite. Iron. Lead and zinc. Manganese. Molybdenum. Monazite. Tin and tungsten. Nonmetallic minerals: Asbestos. Barite. Building stone and road metal. Cement materials. Clay. Diatomite. Fluorite. Gemstones. Graphite. Gypsum. Quartz and feldspar. Salt. [illegible] (pegmatite). Fuels: Coal. Oil shale. Petroleum. Hot springs. References cited. Index.

Note A report of the results of reconnaissance geologic investigation of the mineral deposits of Thailand made by three geologists of the U. S. Geological Survey and four geologists of the Royal Thai Department of Mines. The work was done under the auspices of the Technical Cooperation Administration of the Interdepartmental Committee on Scientific and Cultural Cooperation of the United States Department of State. Some of the basic data in the report were obtained in field work from October 1949 through March, 1952; other parts of the report are based upon earlier fieldwork by Thai geologists and engineers. Twenty diagrams and maps are folded in the pocket in the back of the bulletin.

KELLEY VINCENT COOPER

Geology and economics of New Mexico iron-ore deposits. Prepared in coöperation with the Geological Survey U S Department of the Interior Albuquerque The University of New Mexico Press, 1949 246 p. illus. (part col d) 23 cm. (University of New Mexico publications in geology No two) Paper $3 00 2397

Contents (abridged) Part I, General aspects. Part II, Iron-ore deposits. Bibliography Index.

Note A comprehensive study of iron-ore deposits and mining in a state which is one of the chief suppliers of ore to the iron and steel industry of the southwestern United States. In the first part such aspects as stratigraphy mineralogy classification, reserves, uses, mining, marketing, and economic features are discussed. The second part is a detailed description by region of known deposits. The whole study represents a detailed picture of iron-ore mining in a region where both the mineralogical and economic conditions are comparatively unfavorable.

LADOO, RAYMOND BARDEEN AND W M. MYERS

Nonmetallic minerals. Second edition. New York McGraw-Hill Book Company Inc., 1951 605 p. 24 cm. $11 00 2398

Note. A useful reference book of information about such materials as asbestos, asphalts, borax, clays, feldspar fuller's earth, gypsum, limestone, mica, phosphate rock, sand and gravel, slate, uranium minerals, and vermiculite. Altogether ninety minerals and groups of minerals are considered. The information given on a typical mineral or group includes chemical composition, general description, physical properties, known deposits, mining methods, statistics of production for recent years, uses, prices, and bibliography. The first edition of the book appeared in 1925. This edition contains largely new material.

SELVIG, WALTER ALFRED AND OTHERS

American lignites geological occurrence, petrographic composition, and extractable waxes, by W A. Selvig, W H. Ode B C. Parks, and H. J O'Donnell. Washington D C. Government Printing Office 1950 63 p illus. 26 cm. (United States. Bureau of Mines. Bulletin 482) Paper $0.35 2399

Contents (abridged) Occurrence and geology of lignite deposits in the United States. General nature and use of montan wax. Commercial production of montan wax in Germany and Czechoslovakia. Commercial production of domestic montan wax. Investigation of waxes extractable from British lignite. Investigations of waxes extractable from peat. Waxes extractable from American lignites: Published reports on laboratory investigations of American and Canadian lignites. Laboratory extraction method. Extraction yields. Petrography of lignite coal. Petrographic characteristics of attrital and xyloid lignitic coal. Petrographic composition of lignite from Arkansas, Texas, North Dakota, and California. Investigation of petrographic components contributing to extraction yields. Appendix: Description of coal samples.

Note. Because of the shortage of montan wax at the close of World War and the fact that industry in the United States has had to rely on imported wax in the past, an investigation was started in 1943 to determine probable yields of wax from domestic lignite. Results of the investigation and the proportion of extractable waxes are described in this bulletin. Also discussed are the occurrence and geology of lignite deposits of the United States from which samples were obtained for wax extraction and the petrographic composition of lignites, particularly in respect to those components that contribute to wax yields.

SYMPOSIUM ON MINERAL RESOURCES OF THE SOUTHEASTERN UNITED STATES

1949 *proceedings. Sponsored by* Department of Geology and Geography the University of Tennessee. Edited by F G. Snyder Knoxville, Tennessee The University of Tennessee Press, 1950 236 p. illus. 24 cm. $4.00 2400

Contents: Geologic investigations and exploration in southeastern United States, by R. A. Laurence. Tectonic framework of the southeastern states, by Philip B. King. Problems of the genesis of mineral deposits of the southeastern states, by C. H. Behre, Jr. Feldspar and mica deposits of southeastern United States, by J M. Parker III. Geology of the titanium-bearing deposits in Virginia, by A. A. Pegau. Occurrence of tungsten minerals in the southeastern states, by G. H. Espenshade. Recent geological investigations in the Ducktown mining district, Tennessee, by W W Simmons. Zinc deposits of the southeastern states, by C. R. L. Oder and J. W Hook. Barite deposits southeast of the Appalachian plateau, by T L. Kesler. Kyanite and sillimanite in the southeastern states, by A. S. Furcron. Talc, soapstone, and pyrophyllite in the southeastern United States, by J. L. Stuckey Vermiculite of the southeastern states, by C. E. Hunter. Brown phosphate rock in Tennessee, by H. B. Burwell. Notes on the land-pebble phosphate deposits of Florida, by J. B. Cathcart. Manganese deposits of the southeastern states, by H. D. Miser. Bauxite deposits of the southeastern United States, by J. Bridge. Economic minerals in the beach sands of the southeastern United States, by H. B. Cannon. Ground-water geology in the southeastern states, by V T Stringfield. Ground water in relation to mining in the southeastern states, by G. D. DeBuchananne. Index.

Note: The papers in this volume are devoted—as the title indicates—mainly to resources of specific minerals occurring in economically important deposits in the Southeastern states of the United States of America. The authors are professional geologists and the papers are addressed to geologists and to members of other professions interested in mineral resources of this region. Although most of the authors give some attention to the historical development of the field covered by their papers, the typical paper is a concise summary of the contemporary status with emphasis on the geological and mineralogical aspects rather than the economic. Substantial lists of references are included.

PETROLEUM

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Possible future petroleum provinces of North America. A symposium conducted by the American Association of Petroleum Geologists. Papers presented at the thirty-fifth annual meeting of the Association at Chicago Illinois, April 24–27 1950 Edited by Max W Ball and others. Tulsa The Association 1951 358 p. illus. 24 cm. $4 00 2401

Contents (abridged) Alaska, by G. Gry and others. Western Canada, by Alberta Society of Petroleum Geologists. Pacific Coast states and Nevada, by Pacific Section of American Association of Petroleum Geologists. Rocky Mountain region, by Rocky Mountain Association of Geologists and others. Mid-continent region, by Tulsa Geological Society West Texas and eastern New Mexico, by West Texas Geological Society Fort Worth basin and Muenster Arch, north-central Texas, by Fort Worth Geological Society Dearville Mesozoic rocks of south Texas, by South Texas Geological Society Mexico, by Manuel Alvarez, Jr. Western Gulf coast, by Houston Geological Society Continental shelf of Gulf of Mexico, by Paul Weaver Southeastern United States, by Committee of Geologists from the Southeastern United States. Northeastern United States, by Judson L. Anderson. Appalachian region, by Appalachian Geological Society Eastern Canada, by J F Caley and others. Eastern interior basin, by Illinois Geological Society and others.

Note: (4134) In a sense this book is a sequel to the Association's *Possible future oil provinces of the United States and Canada*, which was published in 1941 and contained 154 pages. Again a group of outstanding petroleum geologists discuss the chances of finding oil in selected regions of the U. S. A. and Canada. More territory has been covered in the present volume, and most of the discussions are based on more geological knowledge. Also, many of the papers outline the experience in particular oil fields and particular geological formations since the 1941 volume was composed.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Petroleum conservation. Sponsored by the Henry L. Doherty Memorial Fund. Edited by Stuart E. Buckley New York American Institute of Mining and Metallurgical Engineers, 1951 304 p. illus 24 cm. 2402

Contents: Elements of conservation. Petroleum resources. The petroleum reservoir. Characteristics of reservoir fluids. Fundamentals of oil recovery. Efficient operation of petroleum reservoirs. Secondary recovery. Pressure maintenance. Conservation and state regulation. Cooperative development and unit operation. Index.

Note. Fourteen experts in the field of petroleum technology have cooperated to prepare this review of the basic principles and methods of petroleum conservation. The material is primarily a description of the techniques employed in the efficient recovery of petroleum, and the reasons behind these practices. However, since the book is written for the petroleum industry as a whole, it also includes discussions of the status of our oil supply and of the steps which must be taken by the industry and governmental agencies to achieve still greater conservation.

AMERICAN PETROLEUM INSTITUTE

Secondary recovery of oil in the United States. Second edition. Prepared by members of the Standing Subcommittee on Secondary-Recovery Methods of the Topical Committee on Production Technology of the Central Committee on Drilling and Production Practice. New York American Petroleum Institute, 1950 838 p. illus. 28 cm. $8.50. 2403

Contents. Part I, General considerations. A review of secondary recovery of oil in the United States, by P. D. Torrey. Magnitude of secondary-recovery operations in the United States, by E. G. Dahlgren. The economics of secondary oil recovery, by W. B. Berwald. Statutes relating to secondary-recovery operations, by R. E. Hardwicke and W. L. Summers. 1947 report of Legal Committee of Interstate Oil Compact Commission with respect to secondary recovery. Formation and operation of unit projects in secondary recovery, by K. E. Beall. The formation and operation of cooperative projects in secondary recovery, by D. V. Carter. Part II, Criteria for determining oil fields' susceptibility to secondary-recovery methods: Schedule of pertinent information for study of secondary-recovery possibilities, by P. D. Torrey. Fundamental data pertinent to secondary-recovery studies, by T. H. Arms and others. Control and prediction of secondary recovery, by W. L. Horner. Prediction of secondary recovery from core analyses, by R. C. Earlougher and J. M. Robinson. The prediction of oil recovery by water flood, by H. Dykstra and R. L. Parsons. Theoretical considerations involved in secondary-recovery operations, by G. H. Fancher. Electrical-model studies of secondary recovery, by W. L. Horner and W. A. Bruce. Influence of geological factors on secondary recovery of oil, by C. R. Fettke. Effects of permeability on secondary recovery of oil, by J. C. Calhoun, Jr. and others. Influence of field saturation on secondary recovery of oil, by P. A. Dickey. Influence of viscosity of crude oil on secondary recovery, by W. A. Heath. Capillary and surface phenomena in secondary recovery, by K. H. Andresen and others. Interactions between interstitial and injected water, by A. J. W. Headlee. Gas requirements in gas-drive recovery, by S. T. Yuster and R. I. Day. Preliminary field tests for determining required injection volumes and pressures, and plant capacity, by J. C. Funk and P. C. Dunn. Part III, The development and operation of secondary-recovery projects: The utilization of old wells, by W. A. Heath. Selective exclusion of water in secondary-recovery operations, by K. H. Andresen and others. Spacing in water flooding, by S. T. Yuster. Use of explosives in water flooding, by S. T. Yuster. Source and purification of water supply, by G. W. Holbrook and A. E. Elsenberger. Design and construction of water-pumping plants, by G. W. Holbrook. Flowing water-flood production, by T. F. Lacey. The behavior of water-input wells, by P. A. Dickey and K. H. Andresen. Increasing and maintaining injection rates of water-input wells, by P. A. Dickey and others. The importance of injected gas as a driving medium in limestone reservoirs as indicated by recent gas-injection experiments and reservoir-performance history, by L. E. Elkins. Source and purification of gas supply, by L. L. McWilliams. The design and construction of compressor plants, by P. D. Torrey. Part IV, Description of secondary-recovery operations in the United States: Water flooding in the state of New York, by W. H. Young, Jr. and G. W. Holbrook. Water flooding in Pennsylvania, by C. R. Fettke. Oil recovery by air and gas repressuring in Pennsylvania, by P. A. Dickey and R. B. Bossler. Secondary recovery in West Virginia. A cooperative report by Eastern District members—in Ohio, by J. Coshell and E. Y. O'Rourke—in Kentucky by N. H. Wilder et al.—in Indiana, by V. R. Gallagher—in Illinois, by F. Squires and others—in Kansas, by Z. Z. Hunter and others—in Oklahoma, by W. A. Heath and R. L. Belser. Water flooding in Texas, by R. K. Guthrie and J. W. Amyx. Results of water injection in Woodbine reservoir of the East Texas field, by W. S. Morris. Gas repressuring in Texas, by R. Goolsby and R. F. Dalgren. Secondary recovery in Arkansas, by L. F. Dauforth and D. K. Mackey—in Louisiana, by A. L. Viner, Jr. and J. C. Phillips—in New Mexico, by M. R. Large and R. L. Orr—in the Rocky Mountain states, by C. M. Nickerson and others—in California, by K. and Winsor. Part V, Mining for petroleum: Mining for oil—a review, by H. C. Miller and C. L. Moore. Part VI, Bibliography on secondary recovery. Part VII, Addenda: Appendices.

Note: A comprehensive and authoritative account of the various methods employed in recovering petroleum "after reservoirs have approached the economic production limit by primary-recovery methods." This edition supersedes the first edition and its two supplements published in 1942, 1944, and 1947 respectively. The information contained in these earlier volumes has been brought up to date and many papers dealing with new developments and practices have been added. The bibliography, which covers the literature since 1876, has been expanded and now includes more than 2000 references.

AMERICAN PETROLEUM INSTITUTE. ADVISORY COMMITTEE ON FUNDAMENTAL RESEARCH ON OCCURRENCE AND RECOVERY OF PETROLEUM

Report of progress—fundamental research on occurrence and recovery of petroleum, 1950–1951 [New York American Petroleum Institute 1952] 263 p. illus. 28 cm. $6.00. 2404

Contents (abridged). Volumetric behavior of hydrogen sulfide, by H. H. Reamer and others. Phase equilibria in hydrocarbon systems—volumetric and phase behavior of the methane-propane system, by H. H. Reamer and others. Application of automatic digital computing methods to the prediction of phase behavior, by T. J. Connolly and others. Phase equilibria in hydrocarbon systems—volumetric and phase behavior of the methane-hydrogen sulfide system—of the propane-carbon dioxide system—methane-ethane-decane system—of the propane-carbon dioxide system, by H. H. Reamer and others. Bacterial activities and the origin of oil, by C. E. ZoBell. Assimilation of hydrocarbons by microorganisms, by C. E. ZoBell. Hydrogen-utilizing, sulfate-reducing bacteria, by C. E. ZoBell. Nitrogen in marine sediments, by F. D. Sisler and C. E. ZoBell. Nitrogen fixation by sulfate-reducing bacteria indicated by nitrogen/argon ratios, by F. D. Sisler and C. E. ZoBell. Hydrogen utilization by some marine sulfate-reducing bacteria, by F. D. Sisler and C. E. ZoBell. Studies of the effect of radioactivity in the transformation of marine organic materials in petroleum hydrocarbons, by W. L. Whitehead. The origin of petroleum—effects of low temperature pyrolysis on the organic extract of a recent marine sediment, by W. L. Whitehead and I. A. Breger. Vacuum differential thermal analysis, by W. L. Whitehead and I. A. Breger. The decomposition of fatty acids by alpha particles, by W. L. Whitehead and others. Radioactivity and the origin of petroleum, by I. A. Breger and W. L. Whitehead. Carbon content and radioactivity of marine rocks, by V. L. Burton and G. R. Sullivan. Steady flow of two-phase single component fluids through porous media, by F. O. Miller. Fluid saturations in porous media by X-ray technique, by A. D. K. Laird and J. A. Putnam. Study of near-shore recent sediments and their environments in the northern Gulf of Mexico, by A. R. Denison. Appendices.

Note. "This volume is the fifth in a series which presents the publications arising from fundamental research and the reports of the directors of the several projects, sponsored by the American Petroleum Institute during 1950 and 1951, in the field of occurrence and recovery of petroleum. Altogether there are six reports and 31 papers. Many of the papers were published originally in periodicals.

Dix, C. Hewitt

Seismic prospecting for oil. New York Harper & Brothers 1952 414 p. 21 cm. (Harper's geoscience series, Carey Croneis editor) $7.50 2405

Contents: Introduction and general orientation. Summary of exploration methods commonly used. Summary of seismic methods commonly used. Routine seismic crew operation—cost reduction. Efficient exploration programs. Routine seismology: Basic technical tools. Datum corrections. Velocity measurements. Depth and dip computations. Strike-dip determinations. Presentation of results. Interpretation: Picking reflections. Refraction prospecting: Line refraction work. The physical processes involved: Basic physics assumed. Propagation of seismic pulses. Recording. Bibliography. Index.

Note: Scientific knowledge and practical know-how have been expertly synthesized in this work. Although other methods are described, most of the space is devoted to seismic prospecting by the reflection method. Field techniques are described, but the main emphasis is on the interpretation of the records of the field work. No previous acquaintance with seismic prospecting has been assumed. However there is much in the book that is of interest to persons of considerable experience with seismic prospecting. An unusual feature is the inclusion of mathematical formula and computations on the illustrations themselves. This makes substantial part of the work available to readers who do not know English. A comprehensive bibliography is included.

Dobrin Milton Burnett

Introduction to geophysical prospecting. New York McGraw Hill Book Company Inc., 1952 435 p. illus. 24 cm. $7 00 2406

Contents: General introduction. Gravity prospecting—fundamental physical principles. The earth's gravity and the concept of isostasy. Instruments for measurement of gravity. Gravity field measurements and reductions. The interpretation of gravity data. Magnetic prospecting—fundamental principles and instruments. The magnetism of the earth. Magnetic field measurements and their interpretation. Prospecting with the air-borne magnetometer. Basic physical principles of seismic wave propagation. Earthquakes and the earth's internal constitution. Seismic instruments and the organization of seismic surveys. The seismic refraction method. The seismic reflection method. Electrical prospecting methods. Prospecting for radioactive minerals. Integration of geophysical methods as illustrated by case histories. Geophysical well-logging methods. Radar position location for geophysical surveys. Current research in geophysical exploration and the relation of geophysics to geology. Index.

Note: Current techniques in geophysical prospecting for petroleum and minerals are described in this book for advanced students in geology and mining engineering and for graduate engineers in these fields who find themselves in need of an introductory survey. Even though the work is an introduction, wide range of material is included on scientific principles, instruments, methods of making observations and of interpreting them for the various established geophysical techniques. In addition, literature references to more extended treatments of particular phases are furnished. The author is Senior Research Technologist on the staff of the Magnolia Petroleum Company

Fanning Leonard M. editor

Our oil resources. Second edition. New York McGraw-Hill Book Company Inc., 1950 420 p. illus. 24 cm. $6.00 2407

Contents: The role of private enterprise in the development of oil resources, by W. S. Farish. A national oil policy for the United States, formulated by the National Petroleum Council. American oil companies in foreign petroleum operations, by E. Holman. Conservation of our oil and gas resources, by H. M. Dow. Technology the great multiplier: Exploration technology by O. D. Donnell—Production technology by J. M. Lovejoy. Our oil and natural gas resources: The earth's petroleum resources, by W. E. Pratt—Estimate of United States oil reserves and natural gas liquids reserves, by the American Petroleum Institute—Estimate of United States natural gas reserves, by the American Gas Association—More oil for America, by L. F. McCollum—Long term availability of petroleum report, by the American Petroleum Institute—How the oil-supply problem was licked, by R. E. Wilson. Our supplemental petroleum reserves, by E. Ayres. The Bureau of Mines demonstration plants in the synthetic-fuels picture, by L. L. Hirst and others. Capital employed in the petroleum industry by J. E. Pogue and F. G. Coqueron. A case history of oil-shortage scares, by L. M. Fanning. Appendix. Index.

Note. A reference book of economic, production, and conservation data. The majority of articles were written by executives of corporations and other organizations of the oil industry and the industry side is presented. The last chapter particularly demonstrates that there have been many oil-shortage scares but no oil shortage. The first edition was published in 1945. In this edition there is much new material, and statistical data have been brought down to the end of 1948.

Hager, Dorsey

Practical oil geology Sixth edition. New York McGraw Hill Book Company Inc. 1951 589 p. illus. 19 cm. $8.00. 2408

Contents: Petroleum—its origin and accumulation. Chemical composition of petroleum—physical constituents—commercial values. Stratigraphy. Fossils and their uses. Structural geology—the broad continental features. Discussions of gas and oil traps. Searching for new gas and oil fields. Geological field methods and instruments in use. Geophysics. Applications of geology to drilling for gas and oil. Geological factors in oil-well drilling. Well logging. Geological factors in oil production. Methods of estimating oil recoveries. Water and its relationship to oil. Natural gas—natural gasoline. Oil shales. What the geologist has done for the oil business. Appendix. List of books on oil and general geology. Index.

Note: (4130) The word "practical" in the title of this book has not been idly used. The book is intended for men who are making their living as oil geologists and for students who are preparing to do so. It covers the whole scope of petroleum geologist's work including such minor points as how to behave when called as an expert witness in law suits. In the sixth edition there are two new chapters, one on well logging and the other on estimating the methods of oil recoveries. The book has been reorganized and the type reset. There are five new tables in the appendix, and the bibliography has been expanded to include the recent literature.

Interstate Oil Compact Commission Engineering Committee

Oil and gas production an introductory guide to production techniques and conservation methods. Norman, Okla. University of Oklahoma Press, 1951 128 p illus. 24 cm. $2 75 2409

Contents: Petroleum geology. Reservoir fluids. Reservoir mechanics. Field examples. Measurement in the production of oil and gas. Regulatory practices affecting oil recovery. Appendix: Major types of reservoir traps. Index.

Note. The Interstate Oil Compact Commission, comprising twenty oil and gas producing states, was organized to promote the cause of petroleum conservation. In this book the Commission has provided for laymen and non-technical employees of the oil industry simple and concise account of the basic principles and methods of oil and gas production. Emphasis is placed on techniques which result in maximum recovery and minimum waste. The descriptive material is further clarified with numerous charts and illustrations.

Lalicker Cecil Gordon

Principles of petroleum geology New York Appleton-Century-Crofts, Inc. 1949 377 p. illus. 24 cm. (The Century earth science series Kirtley F Mather editor) $5.00 2410

Contents: Introduction. Geographic and stratigraphic distribution of petroleum. Chemical and physical properties of petroleum and related substances. The origin of petroleum. Migration and accumulation of petroleum. Reservoir rocks. Classification of oil and gas pools. Origin of structures. Anticlines, domes, and synclines. Reservoirs caused by faulting. Salt dome oil fields. Buried hills. Stratigraphic and porosity type fields. Petroleum discovery methods. Geological considerations in recovery methods. Valuation of oil and gas properties. Index.

Note: A useful, well-organized survey of the current knowledge of petroleum geology. Outstanding features are the tabulations by region and geological strata of known petroleum deposits, the review of the prevailing theories of the origin and accumulation of petroleum, the detailed descriptions of the features of considerable number of developed fields, and the thorough outline of discovery methods. Footnote references to related literature are included. The author has assumed that the reader will understand geological concepts and terminology; however, the presentation is not highly technical.

LANDES, KENNETH KNIGHT

Petroleum geology New York John Wiley & Sons Inc., 1951 660 p. illus 24 cm. $10.00 2411

Contents: The profession of petroleum geology Part I, Techniques of the petroleum geologist: Exploration. Exploitation. Part II, Geologic occurrence of petroleum Physical and chemical properties of oil and gas. Origin and evolution of oil and gas. Migration of oil and gas. Accumulation; reservoir rocks—traps. Part III, Present and future oil supplies: Distribution of oil and gas fields—United States. Distribution of oil and gas fields—exclusive of the United States. Future oil supplies. Appendix. Index.

Note: This book is both college textbook for upperclass students preparing to specialize in petroleum geology and reference book. The third part of the book—which is the part having the most reference value—accounts for about one-half of the space. In this part the main oil fields of the world are discussed from the geological viewpoint. The discussions are fairly detailed and are accompanied by maps and in many cases diagrams of the geological formations. Throughout the book the related literature is cited in footnotes, and at the end there is useful annotated list of important books and documents.

LOZO, FRANK EDGAR, editor

The Woodbine and adjacent strata of the Waco area of central Texas. A symposium edited by Frank E. Lozo with the assistance of Bob F Perkins. Dallas Southern Methodist University Press 1951 183 p. illus. 27 cm. (Fondren science series. No 4) $7 50. 2412

Contents. The Grand Prairies of Texas, by F Bryan. History of discovery and development of Woodbine oil fields in east Texas, by C. L. Alexander Comparative status of the Woodbine in oil production, by G. J Loetterle The South Bosque field, McLennan county, Texas, by J C. Price Geology of Belton Reservoir area, Leon river Bell county Texas, by J. Colligan Geology of Whitney Reservoir area, Brazos river Bosque-Hill counties, Texas, by A. M. Hall. Stratigraphic notes on the Maness (Comanche Cretaceous) shale, by F E Lozo. Woodbine sandstone dikes of northern McLennan county Texas, by J W Monroe. Stratigraphy of the Woodbine and Eagle Ford, Waco area, Texas, by W S. Adkins and F E. Lozo. References. Plates. Index.

Note Together the original papers in this volume constitute detailed study of the geology of one of the most important petroleum producing areas in the world. The volume was prepared by members of the East Texas Geological Society The illustrative matter includes not only series of geological maps of the area but also several plates of photographs of fossil specimens.

MUSKAT MORRIS

Physical principles of oil production. New York McGraw Hill Book Company, Inc., 1949 922 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $15.00 2413

Contents Introduction. The physical properties and behavior of petroleum fluids. The properties of oil bearing formations pertaining to oil production core analysis Basic dynamical equations for homogeneous-fluid-flow systems. Individual well problems in uniform strata with homogeneous-fluid flow. Strata of nonuniform or anisotropic permeability with homogeneous-fluid flow Dynamical foundations for heterogeneous fluid flow phenomena. Steady-state heterogeneous-flow systems the productivity index. General reservoir mechanics. Gas-drive reservoirs. Complete-water-drive reservoirs. Secondary recovery Condensate reservoirs. Well spacing, recovery factors, and recoverable reserves. Appendices. Index.

Note A notable presentation of the current knowledge bearing on the behavior of oil, water and gas in natural underground reservoirs. The author has endeavored to keep as closely as possible to hydrodynamic and other principles that are scientifically sound. The theoretical material is amply buttressed by facts gathered from experience in oil fields, especially oil fields in the United States of America. The book is addressed to petroleum engineers, conservation officials, and other technically trained personnel associated with oil field exploitation and regulation. Related literature is cited in footnotes.

NETTLETON, LEWIS LOMAX, editor

Geophysical case histories. Volume I—1948 A collection of 60 papers by 61 authors, assembled from papers published by the Society of Exploration Geophysicists, The American Association of Petroleum Geologists, and The American Institute of Mining and Metallurgical Engineers together with much new material. Tulsa Okla. Society of Exploration Geophysicists 1949 671 p illus. 25 cm. $7.00. 2414

Contents (abridged) Section I, General and historical papers Publication of geophysical case histories, by H. C. Cortes. The history and development of seismic prospecting, by E. E. Rosaire A brief history of the gravity method of prospecting for oil, by E. A. Eckhardt. Section II, Salt dome case histories. Section III, Midcontinent case histories. Section IV Rocky Mountain case histories. Section Californian case histories. Section VI, Foreign case histories: Geophysical history of the Tucupita oil field, Venezuela, by W. S. Olson. Geophysical history of the Reitbrook salt dome and oil field near Hamburg, northwest Germany by R. R. Schramm. Geophysical exploration and discovery of the Budafapuszta (Lispe) oil field in Hungary by D. C. Ebasin and E. Valk. Geophysical operations in Kuwait, by P H. Boots and A. H. McKee. Index. Map and figure index.

Note A series of papers dealing with the preliminary geophysical reconnaissance of various oil fields, principally in the central and western United States. Detailed case histories are given of many noted fields. About one-third of the papers were written for the volume and the rest were reprinted from various sources. All papers except the first are illustrated, some of them with folding maps or diagrams. The purpose of the case history program of the Society of Exploration Geophysicists is to provide material by which geophysical surveys can be judged in the light of later development of the surveyed area as an aid in the interpretation and evaluation of other geophysical work. The papers are concerned primarily with geophysics rather than geology but geological factors are given varying attention in the articles, ranging from none to considerable, depending upon the individual author. The authors presumed that the book' readers would have an understanding of the general principles and instrumentation by which seismic, gravity and magnetic surveys are carried out.

PIRSON SYLVAIN JOSEPH

Elements of oil reservoir engineering. New York McGraw Hill Book Company, Inc., 1950 441 p. illus. 23 cm. $7.50. 2415

Contents: The reservoir rocks and structures (microscopic study). The reservoir rocks and structures (megascopic study) The reservoir fluids. Reservoir forces and energies. The fundamental equations of reservoir engineering. Fundamental production processes. Analysis of field data. Appendix: Abbreviations and symbols. Name index. Subject index.

Note: The management of underground petroleum reservoirs so as to obtain the maximum yield of petroleum and gas is complex subject which requires detailed knowledge of geology petroleum physics, and associated topics. In this book, designed primarily for graduate petroleum engineering students, the subject is treated comprehensively with the emphasis on the fundamental principles and on sound analytical and forecasting methods. Considerable attention is given to the experimental methods which have advanced the knowledge of oil reservoir behavior

PRATT WALLACE EVERETT AND DOROTHY GOOD editors

World geography of petroleum. Published for the American Geographical Society by Princeton University Press, 1950. 464 p. illus. 26 cm. $7 50 2416

Contents (abridged) Part I, Petroleum in the ground, by E. Stebinger. Part II, The functional organization of the petroleum industry by W. E. Henry Part III, The world's petroleum regions [illegible], by W. E. The Western hemisphere The Caribbean area [illegible], by A. J. Pratt. Venezuela, by G. Zuloaga. Trinidad, by A. J. [illegible] by G. B. Knight Colombia, by G. Barrow North America, by A. I. [illegible] Levorsen. The Eastern hemisphere The Middle East [illegible] by G. M. Lees. Saudi Arabia and Bahrein, by M. [illegible]

M. P Yackel. The Union of Soviet Socialist Republics, by E. Steiniger. Europe west of the U. S. S. R., by L. C. Reed. Indonesia, British Borneo, and Burma, by I. Swaain. The world at whaler: Petroleum in the polar areas, by W E. Pratt. Petroleum on the continental shelves, by W E. Pratt. Part IV Aspects of utilization: The availability of petroleum—today and tomorrow, by K. F Mather Geographical aspects of petroleum use in World War II, by the Office of the Army-Navy Petroleum Board of the Joint Chiefs of Staff. World patterns of civilian utilization, by J. W Frey A statistical survey by A. Van Burkalow Appendix. Bibliography Abbreviations. Note on glossaries. Conversion factors. Index.

Note: In this work geography petroleum geology economics, and utilization have been combined in a successful synthesis. The result is an important background book that reads as easily as any standard work on economic geography and is suitable for both geographers and general readers. Original maps and much other reference material is included.

RISTER, CARL COKE

Oil! Titan of the Southwest. Norman University of Oklahoma Press 1949 467 p. illus. 24 cm. $5.00. 2417

Contents: Foreword, by E. DeGolyer. Texas' oil-spring era. The Red Man's hidden wealth. From Paola to Neodesha, Kansas. Corsicana, the curtain raiser. Queen of the Neches. Exploiting other salt domes. Red Fork, Cleveland, and Glenn pool. Louisiana in the news. Exploring the Red River uplift. Oklahoma steals the show. The Ranger oil boom. Desdemona and Breckenridge. Along the Mexia fault zone. Competition in oil. An Osage Monte Carlo. Arkansas' El Dorado. Texas forges ahead. Greater Seminole. Oklahoma City's bonanza field. Panhandle oil and gas. Permian basin discoveries. Fabulous East Texas. Finding new horizons. Oil at war. Oil conservation and control. An era of specialization. The impacts of petroleum. Appendix. Glossary Bibliography Index.

Note. A well-documented history of the petroleum industry in the southwestern United States of America from its beginnings to the present. In addition to historical descriptions the author gives much information about the financial and economic aspects. The names of individuals and companies connected with the development occur frequently Many interesting illustrations are included

STANDING MARSHALL BURTON

Volumetric and phase behavior of oil field hydrocarbon systems. New York Reinhold Publishing Corporation, 1952 123 p. illus. 29 cm. $10.00. 2418

Contents: Introductory phase behavior and fluid flow concepts. Sampling methods and apparatus. Behavior of gases. Behavior of liquids. Vapor-liquid equilibria. Gas-condensate systems. Dissolved gas systems. Material balances. Glossary relating to hydrocarbon behavior. List of symbols. References. Appendix: General correlations of hydrocarbon behavior Index.

Note: Pressure-volume-temperature relations of the hydrocarbon systems actually found in underground oil and gas reservoirs are covered in this book which was addressed not to chemists or other laboratory service but to petroleum engineers and geologists. The applications of laboratory tests to field conditions are the main theme. Problems such as good procedures in sampling are thoroughly discussed. There are 31 tables, 69 figures, practically all of which are graphical representations of PVT relationships, and a bibliography of 53 references. The author is on the staff of the California Research Corporation.

ZABA, JOSEPH AND W T DOHERTY

Practical petroleum engineers handbook. Third edition, revised and enlarged. Houston, Texas Gulf Publishing Company 1949 654 p. illus. 23 cm. $10 00 2419

Contents General engineering data. Steam. Power transmission. Tubular goods Drilling. Production. Transportation. Index.

Note (4142a) A reference work for operators, engineers, superintendents, foremen, and others engaged in petroleum production. The book consists primarily of charts, tables, formulas, and other engineering data relating to the design of shafting, working pressures, connecting operations, gas lift and flow measurements, pump data, and pipelines. No attempt is made to deal with the chemistry and refining of petroleum. In this edition new charts and tables and revised specifications account for more than 140 additional pages.

METALLURGY AND METALLOGRAPHY

GENERAL

AMERICAN SOCIETY FOR METALS

Atom movements a seminar on atom movements held during the thirty-second National Metal Congress and Exposition Chicago October 21 to 27 1950 sponsored by the American Society for Metals. Cleveland The Society 1951 240 p. illus. 23 cm $5 00 2420

Contents: Formal basis of diffusion theory by L. S. Darken. Chemical techniques and analysis of diffusion data, by C. Wells. Tracer and other techniques of diffusion measurements, by R. E. Hoffman. Mechanisms of diffusion, by H. B. Huntington. Diffusion in alloys and the Kirkendall effect, by J. Bardeen and C. Herring. Volume diffusion—an empirical survey by C. E. Birchenall. Grain boundary and surface diffusion, by D. Turnbull. Diffusion and high temperature oxidation of metals, by C. Wagner. Gas-metal diffusion and internal oxidation, by F. N. Rhines. Diffusion in sintering, by P. Duwez. The migration of grain boundaries, by J. E. Burke. Summary by R. F. Mehl. Subject index.

Note The term "atom movements" as employed in the papers comprising this volume has reference to the phenomenon of diffusion, particularly diffusion in metals and alloys. Each paper has been prepared by an expert in the field and is based on a review of the literature of the subject and on investigations conducted at research laboratories operated by the United States Steel Co., the General Electric Co. the Massachusetts Institute of Technology and similar organizations. Extensive bibliographies and an index are included. The book is addressed to professional metallurgists.

AMERICAN SOCIETY FOR METALS

Cold working of metals A seminar on the cold working of metals held during the thirtieth National Metal Congress and Exposition Philadelphia, October 23 to 29 1948 sponsored by the American Society for Metals. Cleveland American Society for Metals 1949 364 p illus. 23 cm. $5.00 2421

Contents Introduction, by M. Gensamer. Strain hardening—effects of alloying elements and microstructure, by G. V. Smith. Macroresidual stresses in metals resulting from plastic deformation, by W. M. Baldwin, Jr. Structure of slip bands and cold-worked metal, by R. D. Heidenreich. The crystallographic mechanisms of translation, twinning and bending, by C. S. Barrett. Deformation textures, by R. M. Brick. Recrystallization textures, by C. G. Dunn. Dislocation theory by W. Shockley. Mechanism of deformation, by J. H. Hollomon. The effect of strain histories on the work hardening of metals, by T. E. Tietz and J. E. Dorn. Dynamics of slip bands, by C. Zener. Plastic after-effects, by J. O. Lasham. Work hardening under combined stresses, by L. R. Jackson. Creep of metals, by J. D. Lubahn. Cold work and fatigue, by A. M. Freudenthal. The effect of plastic deformation on solid reactions, by B. L. Averbach and M. Cohen. The fracture stress of metals as affected by plastic deformation, the stress system, and size, by D. J. McAdam, jr.

Note In spite of the practical implication in the title of this book, most of the papers contained in it are devoted to fundamental theories and research. Some of the information presented has been derived from recent investigations and is here published for the first time. The papers are addressed to professional metallurgists, particularly those who are concerned with research or with the fundamental aspects of metal forming processes. They are accompanied by references to related literature.

AMERICAN SOCIETY FOR METALS

Grain control in industrial metallurgy A series of four educational lectures on grain control in industrial metallurgy presented to members of the A.S.M during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948. Cleveland American Society for Metals 1949 279 p. illus. 23 cm. $5 00 2422

Contents: The fundamentals of recrystallization and grain growth, by J. E. Burke. Recrystallization and grain control in ferrous metals, by R. L. Kenyon. Recrystallization and grain size control in copper and copper alloys, by H. Burghoff. Grain control in wrought aluminum and magnesium products, by J. T. Hobbs, jr. Glossary of terms used. Index.

Note In this volume four experts associated with fundamental research in metallurgy discuss a subject of the highest importance in metallurgical design and metal working. The papers are addressed to practical metallurgists and are essentially [illegible] in technical terminology of the current knowledge of the subject. They are supplemented by graphs, tabulated data, illustrations, and bibliographies.

AMERICAN SOCIETY FOR METALS

High temperature properties of metals a series of five educational lectures presented to members of the A.S.M during the thirty-second National Metal Congress and Exposition Chicago October 23 to 27 1950. Cleveland The American Society for Metals, 1951 176 p. illus. 24 cm. $4 00 2423

Contents. Creep of metals, by E. R. Parker. Stress rupture testing, by N. J. Grant. High temperature fatigue testing, by H. J. Grover. Methods of high temperature oxidation testing and evaluation of observations, by C. Wagner. Some experiences in service (power and chemical plants) by J. J. B. Rutherford. Index.

Note. The papers in this book were addressed originally to professional metallurgists, but they are of interest also to engineers working on machine design, especially the design of gas turbine parts and other mechanisms that must operate at extremely high temperatures. In general, each paper is a summary of recent research, but all of the authors have also examined the literature and incorporated the pertinent material. Each paper is accompanied by list of references.

AMERICAN SOCIETY FOR METALS

Metal interfaces A seminar on metal interfaces held during the thirty third National Metal Congress and Exposition, Detroit, October 13 to 19 1951 sponsored by the American Society for Metals Cleveland American Society for Metals 1952 335 p illus. 24 cm. $5 00 2424

Contents: The electronic theory of metallic surfaces, by C. Herring. Theory of internal boundaries, by H. Brooks. Grain shapes and other metallurgical applications of topology, by C. S. Smith. Measurement of solid: gas and solid: liquid interfacial energies, by J. H. Udin. Measurement of solid: solid interfacial energies, by K. T. Aust [illegible] Energies and structure of grain boundaries, by [illegible]

and B. Chalmers. Boundary migration during grain growth, by R. L. Fullman. Interface migration in recrystallization, by P. A. Beck. Stress relaxation across interfaces, by A. S. Nowick. Phase transformations at interfaces, by A. H. Geisler. Mechanical effects of interfaces, by B. Chalmers. Metal surface phenomena, by H. H. Uhlig.

Note: This volume contains original papers on topics which is of interest not only in metallurgy but also in physics and chemistry. They deal with the pertinent fundamental theory, techniques of quantitative measurements, the effects of interface phenomena on stress relaxation, mechanical properties, etc. Although addressed primarily to metallurgists, the presentation in most of the papers is on a level that assumes familiarity on the part of the reader with the fundamentals of current atomic physics. Extensive lists of references are included. Most of the authors are associated with teaching and research in United States of America universities and industrial research laboratories.

AMERICAN SOCIETY FOR METALS

Properties of metals in materials engineering. A series of eight educational lectures on properties of metals in materials engineering presented to members of the A.S.M. during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948 Cleveland American Society for Metals, 1949 177 p. illus. 23 cm. $5.00 2425

Contents: Introduction, by R. L. Templin. Fundamental concepts, by M. Gensamer. Behavior of metals under direct or nonreversed loading, by J. R. Low jr. Application of fatigue data to machine design, by R. E. Peterson. Determination of the state of stress, by W. M. Murray. Analysis of stress in aircraft engines, by W. T. Bean, jr. Testing to specific deflections (buckling) by E. C. Hartmann. Design for energy absorption, by W. P. Roop. Index.

Note: The lectures collected in this volume were addressed to practical metallurgists. Each of the lectures presents a compact review of the current knowledge of the specific topic mentioned in its title. The text of each is supplemented by graphical and tabular presentations of engineering data and by references to the pertinent literature.

AMERICAN SOCIETY FOR METALS

Residual stress measurements. A series of four educational lectures on residual stress measurements presented to members of the ASM during the thirty-third National Metal Congress and Exposition Detroit, October 15 to 19, 1951 Cleveland American Society for Metals, 1952 210 p illus. 24 cm. $4.50 2426

Contents: The nature, origin, and effects of residual stresses, by R. G. Treuting. The measurement of residual stresses, by J. J. Lynch. Residual stress states produced in metals by various processes, by H. R. Wishart. Relief and redistribution of residual stresses in metals, by D. G. Richards. Index.

Note: The four lectures assembled in this volume are not limited to residual stress measurements as the book title indicates—but include also discussions of such aspects as the nature and origin of residual stresses, their beneficial use in such well-known processes as hardening by heat treatment and by shot peening and their relief in instances where they are undesirable. The book as a whole is essentially a first course in the subject for men who are thoroughly familiar with metallurgical terminology and basic concepts. Although it is primarily of interest to metallurgists who are concerned with the working of metals, it holds some interest for technical men in other fields such as structural engineering and machine design.

AMERICAN SOCIETY FOR METALS

Thermodynamics in physical metallurgy a seminar on thermodynamics in physical metallurgy held during the thirty first National Metal Congress and Exposition Cleveland October 15 to 21, 1949 sponsored by the American Society for Metals. Cleveland The American Society for Metals, 1950 317 p. illus. 23 cm. $5 00. 2427

Contents. The principles of thermodynamics, by P. W. Bridgman. The role of statistical mechanics in physical metallurgy, by C. Zener. Application of thermodynamics to heterogeneous equilibria, by L. S. Darken. Application of electromotive force measurements to phase equilibria, by F. J. Dunkerley. On equations of state and the phase diagrams of simple binary alloys, by A. W. Lawson. The thermodynamics of liquid metallic solutions, by J. Chipman. Physical factors affecting order in metallic systems, by C. E. Birchenall. Heterogeneous nucleation, by J. H. Hollomon. Phenomena accompanying precipitation from solid solutions of C and N in alpha-iron, by C. Wert. Eutectoid decompositions, by J. C. Fisher. Thermodynamics of the martensitic transformation, by M. Cohen and others. A nucleation problem in ferromagnetism, by L. J. Dijkstra. Principles of solidification, by D. Turnbull. Contributions of thermodynamics to metallurgical research and operations, by J. B. Austin. Subject index.

Note A collection of papers on advanced topics in metallurgy. Although the papers are addressed primarily to professional metallurgists, they deal less with the everyday work of such folk than with the advancing fundamental knowledge from which industrial practices are eventually derived. Most of the papers are accompanied by excellent lists of references to related literature, and in a few cases a transcript of discussion is included. The volume is of interest not only to metallurgists but to physical chemists and physicists as well.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on corrosion of materials at elevated temperatures. Presented at the fifty third annual meeting American Society for Testing Materials, Atlantic City N J., June 26 1950 Philadelphia, Pa. American Society for Testing Materials 1951 121 p. illus. 23 cm. (Special technical publication no 108) Paper $2.25 2428

Contents: Introduction, by C. T. Evans, jr. Coal ash corrosion of metals at elevated temperatures, by C. T. Evans, jr. Stress corrosion tests on turbo-supercharger materials in the products of combustion of leaded gasoline, by G. B. Wilkes, jr. Creep as a surface dependent phenomenon, by M. R. Pickus and E. R. Parker. The effect of environment on the stress-rupture properties of metals at elevated temperatures, by G. Cutler Shepard and Willis Schalliol. Preliminary studies of the effect of oxidizing sulfurous atmospheres on the rupture strengths of Inconel "X" and Inconel, by A. M. Talbot and E. N. Skinner. Hydrogenating effect of steam on ferrous alloys at elevated temperatures, by C. A. Zapffe and F. K. Landgraf. Oil ash corrosion of materials at elevated temperatures, by C. T. Evans, jr. The growing rôle of protective coatings for metals in high-temperature service, by W. N. Harrison.

Note These original papers were written for the information of metallurgists and engineers engaged in the design and construction of machines and industrial equipment subject to extremely high temperatures. Based on investigations conducted by experts in the field, they provide technical information regarding the behavior of various engineering materials under elevated temperatures. Discussions are included, and the paper on oil ash corrosion contains an extensive bibliography.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on deformation of metals as related to forming and service. Presented at the fifty-first annual meeting American Society for Testing Materials Detroit, Mich., June 22 1948 Philadelphia, Pa. American Society for Testing Materials, 1949 117 p. illus. 23 cm. (Special technical publication no 87) Paper $2 00. 2429

Contents: Introduction, by L. L. Wyman. Tests of ductility in ship structure, by Wendell P. Roop. Notch sensitivity of ship plate—correlation of laboratory-scale tests with large-scale plate tests, by Noah A. Kahn and Emil A. [illegible]. Measurement of ductility in sheet metals, by John R. Low jr. and Thomas A. Prater. Hy-

draulic bulge testing of sheet metals, by W T Lankford. Notched bar tension tests on annealed carbon steel specimens of various sizes and contours, by M. L. Fried and G. Sachs.

Note: A collection of original papers by outstanding research metallurgists. It reflects the new fundamental knowledge of plastic deformation and flow of metals and contains descriptions of new tests which are useful in relating this knowledge to metallurgical and structural design. There is some emphasis on metallurgical problems in shop design, but the usefulness of the material is not limited to this field. The papers are accompanied by abstracts of the discussions at the meeting, illustrations, and selected lists of references.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on metallography in color 1948 *Presented* at the fifty first annual meeting American Society for Testing Materials, Detroit, Mich., June 21 1948 Philadelphia, Pa. American Society for Testing Materials, 1949 64 p. illus. (part col d) 23 cm. (Special technical publication no. 86) Paper $4.50 2430

Contents: Introduction, by L. V Foster Metallography in color by R. P Loveland. Microscope optics for color metallography by James R. Benford. Quality and quantity of illumination in color metallography by R. P Loveland Insert plates to x, four-color process illustrations. Color metallography simplified, by Mason Clogg, Jr Some applications of color metallography by W D. Forgeng. The application of color photography to the study of nonmetallic inclusions, by A. M. Hall and E. E. Fletcher.

Note: In these papers are described various techniques which have been developed for making photomicrographs in color of metal specimens. The procedures are based on the research and experience of the authors, all of whom are experts in the fields of metallurgy and metallography The illustrations include reproductions in color of 37 microphotographs. Lists of references and discussions of the papers are included.

BARRETT CHARLES S

Structure of metals crystallographic methods principles and data. Second edition. New York McGraw Hill Book Company Inc., 1952 661 p illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) $10.00 2431

Contents: The fundamentals of crystallography The stereographic projection. X-rays. Diffraction of X-rays by crystals. Laue and fixed-crystal methods. Rotating-crystal methods and the reciprocal lattice. The powder method. The determination of crystal structure. Pole figures and orientation determinations. Determination of constitution diagrams with X-rays. Structure of metals and alloys. Superlattices. The electron theory of metals and alloys. Stress measurement by X-rays. The plastic deformation of metals. Dislocation theory The structure of cold-worked metal. Preferred orientations resulting from cold work. Preferred orientations after annealing. Orientations in castings and in deposited films. Anisotropy Age hardening and transformations. Diffraction of electrons, atoms, and neutrons. Appendices. Index.

Note (4141) A substantial work which is used both as text in crystallography for advanced students of metallurgy and as reference tool by metallographers. It presents from the standpoint of metallurgy and metallography the fundamental knowledge and the techniques of crystallography and shows applications not only to the study of metals and alloys but also to their reactions to cold working and other treatments It is well documented with footnote citations to pertinent literature The appendices contain variety of basic information on crystal structure, the intensity of X-ray reflections, etc The first edition was published in 1943. The work was extensively revised for this edition, particularly in the discussion of such matters as creep, dislocation ferromagnetism, and insulators and semiconductors Literature references and tables have also been revised.

BRICK, ROBERT MAYNARD AND ARTHUR PHILLIPS

Structure and properties of alloys the application of phase diagrams to the interpretation and control of industrial alloy structures. Second edition. New York McGraw Hill Book Company Inc. 1949 485 p. illus. 23 cm. (Metallurgy and metallurgical engineering series, Robert F Mehl, consulting editor) $7 00 2432

Content Requisite tools of the metallurgist. Commercially pure metals. Solid solutions: copper base alloys. Cold working and annealing. Cast eutectic alloys: lead-base systems. Age-hardening cast- and wrought aluminum alloys. Alloys of magnesium. Phase transformations two-phase copper alloys. Iron-carbon alloys: normalized and annealed steels. Theory of heat treatment of steels. Heat-treated engineering steels, plain carbon and alloy types. Carbon and alloy tool steels. Special corrosion- and heat-resistant alloys. Cast irons. Monotectics, sintered metal powders. Generalizations. Index.

Note (4146) A concise presentation of the knowledge from the field of physical metallurgy which is important to the understanding of alloys. The authors' theme is that alloys can be studied and understood only against background of knowledge of the significance of phase diagrams, microstructures, the characteristic properties of the structures, and the effects of metal treating processes upon all three. The first edition of the book was comparatively brief. It has been greatly expanded in order to suit it for use in college courses and also to increase its value as reference book for men concerned with the specifications and uses of alloys in industry The illustrative matter now includes large number of excellently reproduced micro-photographs.

BRIDGMAN PERCY WILLIAMS

Studies in large plastic flow and fracture, with special emphasis on the effects of hydrostatic pressure. New York McGraw Hill Book Company Inc., 1952 362 p. illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) $8.50 2433

Contents (abridged) Part I, Tests under hydrostatic pressure The tension of steel under pressure. Two-dimensional tension under pressure. Tension tests under pressure on materials other than steel. Simple compression under hydrostatic pressure. Punching under pressure. The collapse of thick, hollow cylinders of steel under external pressure. The effect of external pressure on cavities in brittle materials. Wire drawing and extrusion under pressure. Part II, Other tests involving large deformations: Simple compression. Two-dimensional compression. Torsion combined with simple compression. Part III, Plastic flow combined with approximately hydrostatic pressure. Simple tension after prestraining. Simple tension after prestraining in simple compression. Simple compression after prestraining in two-dimensional compression. Torsion after prestraining in tension under pressure. Index.

Note In this new book Professor Bridgman, whose experiments in the domain of high pressure are internationally known, has systematized and interpreted the results of an extensive series of experiments "made with the explicit purpose of understanding better the nature of both the phenomenon of fracture under conditions of high stress and the phenomenon of the large plastic flow which often precedes such fracture." Although the book is in the nature of an interim report rather than statement of conclusions, it contains many interesting observations some of which can undoubtedly be turned to practical account in industry It is potentially of interest to several groups including professional physicists working in crystallography and the physics of metals and research metallurgists.

CLARK, DONALD SHERMAN, AND WILBUR R. VARNEY

Physical metallurgy for engineers. New York D Van Nostrand Company Inc., 1952 567 p. illus. 24 cm. $6.50 2434

Contents. Metallurgy in engineering. Metals and alloy systems. Iron-carbon alloys. Heat-treatment of steel. Plain carbon steels. Case-hardening. Function of alloying elements in steel. Low-alloy steels. Principles of corrosion and surface treatment. Tool steels. Principles of corrosion. Corrosion- and scale-resistant steels. High-strength heat-resistant alloys. Cast irons. Precipitation hardening and precipitation-hardening alloys. Copper- and nickel-base alloys. Light metals and their alloys. Metal

lurgy of casting. Metallurgy of mechanical working. Metallurgy of soldering, brazing, and welding. Appendixes: AISI-SAE carbon steel compositions—1951. AISI-SAE free-cutting steel compositions—1951. AISI-SAE alloy steel compositions—1951 Typical heat treatments for AISI-SAE alloy steels. Hardenability bands for alloy steels. Typical end-quench and tempered end-quench curves. Approximate hardness conversion table. Index.

Note: A textbook on physical metallurgy as it applies to the selection, treatment, and use of metals and alloys in engineering practice with emphasis throughout upon principles. The authors are professors of mechanical engineering at the California Institute of Technology where the subject-matter of the text has been presented over period of many years in course on physical metallurgy for engineering students. A list of references and set of questions conclude each chapter.

CLARK, FRANCES HURD

Metals at high temperatures New York Reinhold Publishing Corporation, 1950 372 p. illus. 23 cm. $8.50. 2435

Contents: Introduction and theoretical aspects. Test methods and equipment for elevated temperatures. Plain-carbon and low alloy steels. Chrome irons, moderately alloyed austenitic steels. Highly alloyed austenitic steels. Cobalt-base alloys. Nickel-base alloys. Noncommercial alloys. Manufacturing processes. Lower melting alloys. Scaling. Subject index.

Note: In the first chapter of this book the author presents critical digest of the present knowledge of the plastic flow of the metals. The second chapter is devoted to test methods, but the remaining chapters are largely compilations of data gathered from the published literature. As might be expected, the greater part of the cited literature has been published in the past decade. About half of the text is made up of tabular and graphical presentations of data. The rest is concise discussion. Statements in the text and most of the tables and graphs, also, are related by means of key numbers to citations of the source articles.

CURTIS FRANK W

High-frequency induction heating. Second edition. New York McGraw Hill Book Company Inc., 1950 389 p. illus. 21 cm. $7.00. 2436

Contents: Principles of induction heating. Induction-heating equipment. Design of induction-heating coils. Brazing, soldering, and joining. Hardening and heat-treatment. Fixtures for induction heating. Miscellaneous induction-heating applications. Designing for induction heating. Dielectric heating. Index

Note: (4166a) A survey of the applications of high-frequency induction heating in industrial processes. Though the chapter titles are essentially the same as in the first edition, the book has been thoroughly revised and now contains much material that did not appear in the original edition. A considerable part of that material relates to new fixtures and assemblies which have been developed as the applications of induction heating have been extended. However the chapter on dielectric heating is still essentially an outline of the subject and is not intended to be comparable in thoroughness to the rest of the book. The book is of wide practical interest in manufacturing industries.

GEIL, GLENN W , editor

Mechanical properties of metals at low temperatures. Proceedings of the NBS Semicentennial Symposium on Mechanical Properties of Metals at Low Temperatures held at the NBS on May 14 and 15, 1951 Washington, D C. Government Printing Office, 1952 206 p illus. 24 cm. (United States. National Bureau of Standards. Circular 520) $1.50. 2437

Contents: Recent European work on the mechanical properties of metals at low temperatures, by H. P Allen. Manufacture of steels for low-temperature service, by J R. Austin. Development and application of chromium-copper-nickel steel for low-temperature services, by W Crafts and C. M. Offenhauer. Tensile properties of copper, nickel, and some copper-nickel alloys at low temperatures, by G. W Geil and N L. Carwile. Application of metals in aircraft at low temperatures, by J. R. Johnson and D A. Sitler. Properties of austenitic stainless steels at low temperatures, by V N Krivobok. Dimensional effects in fracture, by C. W MacGregor and N Grossman. Mechanical properties of high-purity iron-carbon alloys at low temperatures, by R. L. Smith and others. Brittle fractures in ship plates, by M. L. Williams.

Note Printed in this book are nine papers delivered first at one of the symposia sponsored by the National Bureau of Standards in connection with its semicentennial in 1951 Each monograph is followed by transcription of the discussion that followed at the symposium and by bibliographical references.

GILLETT, HORACE WADSWORTH

The behavior of engineering metals. New York John Wiley & Sons, Inc., 1951 395 p. illus. 24 cm. $6.50. 2438

Contents (abridged) General considerations. Tests and specifications. Simulated service. Notches and surface stress, external and internal. The statistical approach. Chemical and physical properties. Tonnage steels. Wrought steels of intermediate strength. Heat-treated steels. Cold worked metals. Ferrous castings. Steel, cast and malleable irons. The graphitic family. Important nonferrous cast alloys and their idiosyncrasies. Alternate casting methods. Light wrought alloys; titanium and zirconium. Some less common and some precious heavy metals. Metal behaviors as affected by hydrogen. Machinability. Inhomogeneous, clad, and coated metals. Metal films and surfaces. Powders and objects made by powder metallurgy. Bearing metals. Surfaces in severe service. Severe service at high and low temperatures. Alternate materials, cost, conservation, codes. Appendix: Sources of more detailed information. Author index. Subject index.

Note: Here the special knowledge of the physical metallurgist is interpreted for the users of metals who do not have special training in metallurgy. The book can well be used by such persons as complement to the standard compilations of engineering data about metals. It is in no sense reference book of data; but it does contain lucid discussions of such topics as the properties of structural steel and what affects these properties, methods of testing the properties of metals, magnetic properties of metals, and the effects of cold working. Many special points and "tricks of the trade" are included that would be hard to find assembled elsewhere. Good selected lists of references accompany the chapters.

GUY ALBERT G

Elements of physical metallurgy Cambridge Addison Wesley Press, Inc., 1951. 293 p. illus. 25 cm. $6 50 2439

Contents. Introduction. A survey of metallurgy Atomic structure. Crystal structure. Equilibrium diagrams. Structure of alloys. Physical properties. Elasticity of metals. Plasticity of metals. Corrosion. Diffusion in metals. Recovery recrystallization and grain growth. Age hardening. Heat treatment of steel. Appendix Literature of metallurgy Index.

Note: An introductory work for college students who have completed courses in basic physics, chemistry and calculus. The treatment includes considerable emphasis on phase diagrams and has other up-to-date features A short bibliography is appended to each chapter and in addition there is discussion of the principal guides to metallurgical literature and of methods of searching them for information on problem. The author is member of the faculty of the University of North Carolina.

GWIAZDOWSKI, ALEXANDER PETER

Engineering metallurgy Appleton, Wisconsin C. C. Nelson Publishing Company 1950 247 p. illus. 24 cm. $4.00 2440

Contents Metals and their properties. The static properties of metallic materials. Structures and compositions of ferrous alloys. The metallic elements, properties, alloy compositions, and uses. Steels, ingot and wrought irons. Rolling processes. Applications of S. A. E. steels. Heat treatment of ferrous alloys. High-speed and commercial tool steels. Corrosion and heat resisting steels. Processing of rolled steels. Cast ferrous alloys. Cast steels. Light non-ferrous alloys. Heavy non-ferrous alloys Bearing metals. Finished steel products by states. Review questions. References for further reading. Index.

Note. A compact presentation of metallurgical information useful to engineers who are concerned with the selection of metals for manufactured parts. It is designed for use as textbook in engineering college courses, but it is suitable also as survey of selected, practical information for graduate engineers, purchasing agents, etc.

HAYWARD, CARLE REED

An outline of metallurgical practice. Third edition This edition sponsored by American Smelting and Refining Company New York D Van Nostrand Company Inc. 1952 728 p illus. 24 cm. $10.00 2441

Contents. Introduction. Copper Lead. Zinc. Aluminum. Nickel. Tin. Mercury Antimony Arsenic. Bismuth. Cadmium. Cobalt. Magnesium. Beryllium. Gold. Silver Platinum. Chromium. Tungsten. Manganese. Vanadium. Molybdenum. Zirconium. Titanium. Uranium. Iron and steel. Non-ferrous alloys. Index.

Note (4175) This book meets a two-fold need: for engineers it is a reference book giving modern practices in extracting and refining metals and giving general information regarding the sources, uses, and important alloys of the metals; for students beginning the study of metallurgy it is a textbook covering metallurgical practice in outline. Because of advances in the field of metallurgy since the second edition was published in 1940, some sections of the book have been entirely rewritten for the third edition, and new chapters on titanium and uranium have been added. Also certain old time processes, such as copper blast-furnace smelting and the puddling process for wrought iron, have been dropped. The 65 tables have been brought up to date. A special feature is made of the illustrations, of which there are more than 400, about one-third of them entirely new. The author advises a careful study of the illustrations, as in many instances they are substitutes for printed descriptions of processes or apparatus.

HOYT SAMUEL L

Metal data. Revised edition of *Metals and alloys data book* New York Reinhold Publishing Corporation 1952 526 p. illus. 26 cm. $10 00. 2442

Contents: Test specimens. Hardness tests. The wrought steels. Heat treated steels. Cast steels. The cast irons. Stainless steels. Heat and corrosion-resistant casting alloys. Super-alloys. The nonferrous alloys. Additional metals. General data. Index.

Note. (4175) A standard reference handbook for the use of advanced engineering students, graduate engineers, and metallurgists. The information contained is given primarily in the form of charts and tables classified under the headings listed above. The chapter entitled "General data" contains a variety of useful information on such topics as the properties of the chemical elements, the heat content of metals, pyrometric cones, weights of sheets and plates, and various compilations of conversion tables. The first edition was published in 1943. In the present edition the nature of the book is the same but the contents have been much extended. More than 120 tables have been added. The number of figures has been increased from 40 to 173 and there are almost 200 more pages.

HULTGREN RALPH

Fundamentals of physical metallurgy New York Prentice-Hall, Inc. 1952 395 p. illus. 22 cm. $9.35 2443

Contents (abridged) Introduction. The metallic state. Phases and simple equilibrium phase changes. Non-equilibrium phase changes. Decomposition of austenite. Ternary phase diagrams. Deformation of metals. Recovery and recrystallization. X-ray metallography. Crystal chemistry of metals. The casting of metals. Hot working of metals. Heat treatment of steel. Surface hardening of steel. Powder metallurgy Welding metallurgy Oxidation and corrosion. Metallography of alloying elements in steel. Properties of steel. Cast iron. Copper and copper alloys. Light metals. Preparation and examination of microscope sections. Hardness testing. Pyrometry Macroscopic examination—radiography Index.

Note An introductory textbook for college courses. It represents the approach to physical metallurgy which stresses the physical and chemical principles common to all alloys rather than the description of specific alloys. Phases and phase changes, for instance, are discussed at considerable length. Except for those parts which are intended to be coordinated with laboratory work, the book is also suitable for home reading by engineers out of college and other persons who have the necessary technical background. The author is Professor of Metallurgy in the University of California.

KEHL GEORGE LOUIS

The principles of metallographic laboratory practice. Third edition. New York McGraw Hill Book Company Inc., 1949 520 p. illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) $6 75 2444

Contents. Preparation of specimens for microscopic examination. Etching of specimens for microscopic examination. Metallurgical microscopes and photomicrography. The principles of photography. Macroscopic examination of metals. Hardness testing. Special metallurgical tests. The principles of pyrometry and pyrometric practice. Thermal analysis. Appendix. Index.

Note. (4177) Although designed and used as a textbook, this work is also a useful and comprehensive treatise on metallography. It includes no laboratory experiments but, instead, describes how things are done, and why, in laboratories set up for the study of the physical and mechanical properties of metals and alloys. The exposition is compact, but is sufficiently full for most purposes. It is supplemented by excellent lists of references and by more than 300 illustrations and 41 tables. Substantial revisions were made in preparing this edition.

KEYSER, CARL A.

Basic engineering metallurgy, theories, principles and applications. New York Prentice-Hall Inc., 1952 384 p. illus. 22 cm. $7.65 2445

Contents (abridged) The structure of metals. The solid state—freezing, solutions, diffusion. Mechanical properties and metal failure. Equilibrium diagrams. The hardening of metals. Annealing—recovery, recrystallization, and grain growth. *Phase* changes in iron and steel. Heat-treating equipment and operations. The alloying elements in steel. The light metals. Copper and brass. Miscellaneous metals. Primary methods of fabrication—casting—powder metallurgy Electroplating and electroforming. Secondary methods of fabrication—mechanical working—joining and associated operations—machining and finishing. Index.

Note An introductory textbook for college students of engineering. Approximately one-third of the space is devoted to theoretical aspects such as the physics of the solid state. The remainder is divided between discussions of heat treatment, the engineering properties of particular metals, and the chief processes of metal fabrication. The discussions are necessarily somewhat generalized, but in most parts they are sufficiently detailed to inform engineering students and engineers who are not specializing in engineering metallurgy. The book is adequately illustrated and contains occasional footnote references to related literature.

LORD JAMES OSBORN

Alloy systems an introductory text. New York Pitman Publishing Corporation, 1949 380 p illus. 24 cm. (Pitman metallurgy series. Frank T Sisco advisory editor) $5.50. 2446

Contents (abridged) The metallic state defined. How conditions of solidification affect metal structure. The use of the equilibrium diagram in the interpretation of microstructures. The phase rule and its application to alloys. Deviations from equilibrium. The iron-carbon alloys. The equilibrium relations of iron and carbon. Structures of slowly cooled iron-carbon alloys. Methods of [illegible] of iron and steel. The thermal critical points of steel. The structures of heat treated steels—theories of hardening. The chemistry of the carburizing process and controlled furnace atmospheres. Heat treatment of carburized steel Liquid-bath carburizing. The McQuaid Ehn test—hardenability Specific characteristics of chromium steels and manganese steels. Specific characteristics of tungsten steels and molybdenum steels. Specific characteristics of Copper steels and of [illegible] and tool [illegible] high speed steels. Copper manufacture and properties—metallography The copper alloys. Aluminum bronze and other bronzes. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Appendices: Crystallography of metal crystal lattices. A derivation of the phase rule. A selected book list for collateral reading. The use of periodical literature in teaching physical metallurgy Index.

Note. The pertinent aspects of physics and physical chemistry are stressed in this textbook. There is much emphasis on thorough understanding of thermochemical equilibria and the interpretation of phase diagrams. The theoretical and basic material is followed by specific discussions of alloy systems and related metallurgical topics. The book is designed to give undergraduate students a working knowledge of the physico-chemical bases of alloys and also some acquaintance with the properties of specific alloys of outstanding engineering importance.

LYON, RICHARD N., AND OTHERS

Liquid-metals handbook a guide to the use of liquid metals as heat transfer media. Editor in-chief Richard N Lyon. Sponsored by The Committee on the Basic Properties of Liquid Metals, Office of Naval Research Department of the Navy in collaboration with The Atomic Energy Commission and The Bureau of Ships, Department of the Navy Second edition. Washington, D C. Government Printing Office, 1952 269 p. illus. 26 cm. Navexos P–733 rev) Paper $1 00. 2447

Contents: Industrial utilization of liquid metals, by D. L. Katz. Physical properties of liquid metals, by R. R. Miller. Chemical properties and laboratory techniques, by C. B. Jackson and R. M. Adams. Corrosion of materials by liquid metals, by R. C. Miller. Liquid-metal heat transfer, by R. N. Lyon and H. F Poppendiek. Experimental liquid-metal heat-transfer systems, by T Trocki. Liquid metal experimental heat-transfer system components, by T Trocki. Availability of liquid metals, by L. R. Kramer. Index.

Note: A handbook of discussions and data on all metallic elements and those alloys which melt at 450° C. or below and are potentially useful as heat-transfer media. This new edition is considerably enlarged and revised from the original edition of 1950.

MURRAY WILLIAM M., editor

Fatigue and fracture of metals a symposium held at the Massachusetts Institute of Technology June 19–22, 1950 Edited by William M. Murray With a foreword by Jerome C. Hunsaker New York Published jointly by the Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc. 1952 313 p illus. 24 cm. $6.00 2448

Contents: General survey of the problem of fatigue and fracture, by M. Gensamer The fatigue problem in airplane structures, by H. L. Dryden and others. Brittle fracture and fatigue in ships, by F Jonassen. Brittle fracture and fatigue in machinery by R. E. Peterson. Internal stresses and fatigue, by O. J. Horger and H. R. Neifert. Designing for fatigue, by R. L. Templin. Fundamentals of brittle behavior in metals, by E. Orowan. Experimental study on temper brittleness of slightly alloyed carbon steel, by P A. Jacquet and A. R. Weill. The statistical aspect of fatigue failure and its consequences, by W Weibull. A review of cumulative damage in fatigue, by M. M. Newmark. Significance of transition temperature in fatigue, by C. W MacGregor. The influence of metallographic structure on fatigue, by P L. Teed. Fatigue at elevated temperatures, by N. J. Grant. The techniques of physical metallurgy for studying fatigue damage, by J. T Norton.

Note. A collection of original papers which were presented first at conference which was planned to focus attention upon the fatigue and fracture of metals as an engineering problem. Together, they convey picture of the developed knowledge and practical experience, summarize recent advances, and point out problems still in need of basic research.

SAMANS CARL HUBERT

Engineering metals and their alloys. New York The Macmillan Company 1949 913 p. illus. 24 cm. $10 75 2449

Contents: General characteristics of the metallic engineering materials. The pure metal. Metallurgical methods. Production of the metals—magnesium, aluminum, and zinc—from their ores. The production of pig iron and cast iron. Iron and steel making. Production of the metals—copper nickel, lead, and tin—from their ores. The theory of alloys. The principles of heat-treatment. Shaping and forming the metallic materials. Corrosion, its effects and control. Protecting metals against corrosion. Alloys used largely because of ease of fabrication. Pipe, tubing, and coatings resistant to water corrosion. Alloys resistant to chemical corrosion and the action of heat. Alloys for applications requiring high strength and toughness. Alloys resistant to general wear and abrasion. Tool materials. Bearing alloys. Alloys used because of their special physical properties. Index.

Note: Although intended primarily as textbook, the comprehensiveness of this work makes it suitable for use also as reference tool by practicing engineers. All phases of metallurgy are treated but about three-fourths of the space is devoted to engineering metallurgy The book is especially outstanding for an extensive range of technical data relating to the properties of the eight major engineering metals and their alloys. As the chapter titles indicate, alloys are grouped and discussed from the standpoint of their uses. There are 551 figures, many of which are reproductions of photomicrographs. Selected references to additional literature are appended to the chapters.

SCHUHMANN REINHARDT, JR.

Metallurgical engineering Volume I Engineering principles Cambridge, Mass. Addison Wesley Press Inc. 1952 390 p illus 25 cm. (Addison Wesley metallurgy series, Morris Cohen consulting editor) $7.50. 2450

Contents. The unit processes of chemical metallurgy Stoichiometry The heat balance. Metallurgical fuels. Combustion of fuels and heat utilization. Fluid flow Steady heat flow Unsteady heat flow Phases in pyrometallurgical systems. Refractory materials. Appendix. Index.

Note. A college textbook in which the traditional approach to the teaching of extractive metallurgy has been discarded in favor of teaching the basic principles and unit processes. The importance of physical chemistry is demonstrated, and analytical and quantitative solutions of engineering problems are emphasized. In this first volume basic principles common to the unit processes of extractive metallurgy together with discussions of metallurgical fuels and refractory materials, are covered. The second volume, which will complete the work, will be devoted to the unit processes themselves. The book is based on experience in teaching at Massachusetts Institute of Technology where the author is Associate Professor of Metallurgy

SHRAGER, ARTHUR M.

Elementary metallurgy and metallography New York The Macmillan Company 1949 297 p. illus. 24 cm. $3.00 2451

Contents The structure of metals. Slip, plastic deformation, and recrystallization. Alloys and constitutional diagrams. Structures of iron and steel in the solid state. Iron ore. Chemistry involved in the metallurgy of iron and steel. Production of pig iron. Cast iron and wrought iron. Steel. Bessemer steel. The open-hearth process. The electric arc furnace. Ingot practice. Working, shaping, and joining of iron and steel. Principles of heat treatment of steel. Annealing, hardening, and tempering steel. Surface hardening of steel. Alloy steels. Copper and copper alloys. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Zinc. Control and testing. Foundry practice. Bibliography Tables. Glossary Index.

Note: An excellently written and unexpectedly inclusive introduction to metallurgy and metallography The main facts of each topic named above are presented in semi-technical terminology The book is intended for use in vocational high-school courses and other courses attended by practical workers. It is also good book for lay reading and elementary reference work. The twenty-page bibliography adds to the reference value.

SMITH GEORGE V

Properties of metals at elevated temperatures. New York McGraw Hill Book Company Inc. 1950 401 p illus. 23 cm. (Metallurgy and metallurgical engineering series Robert F Mehl, consulting editor) $8.00 2452

Contents (abridged) Plastic deformation of single crystals. Plastic deformation of polycrystalline metal. Creep of polycrystalline metals. The fracture of metals Theories of flow and fracture. Tests and test equipment. Effect of chemical composition on creep. Effect of melting and deoxidation practices, heat-treatment, and grain size. Effect of varying temperature and load and of the state of stress. Changes during service-aging and microstructural changes. Design for elevated-temperature service. References. Appendix. Name index. Subject index.

Note This book is a comprehensive presentation of the knowledge which has been accumulated in the last quarter-century pertaining to the effects of high temperature upon metals and to the design of metals and alloys for high temperature service. It is devoted to basic knowledge rather than applications, and is intended for graduate metallurgists and physicists. The statements in the text are keyed to a bibliography of 433 references The author is on the staff of the Research Laboratory of the U S. Steel Corporation.

SPELLER, FRANK NEWMAN

Corrosion causes and prevention Third edition. New York McGraw Hill Book Company Inc., 1951 686 p. 24 cm. $11 00. 2453

Contents (abridged) Nature and mechanism of corrosion—theories of corrosion Influence of methods of manufacture and treatment. Influence of factors internal to the metal—composition. Influence of factors external to the metal—classification of corrosion. Principles and methods of corrosion testing Prevention of corrosion in the atmosphere—underwater—in closed water systems by removal of dissolved gases—in steam generators—in steam and hot-water heating systems—in chemical industries—underground. Stray-current corrosion (electrolysis) Cathodic protection. Appendix. Index.

Note (4185) Since 1926, when the first edition was published, this work has been known as an authoritative, useful presentation of the knowledge of corrosion of the ferrous metals. It is written from the practical viewpoint, but the theoretical aspects are adequately outlined In the present edition there are one new chapter and a fair amount of revision. The type has been reset.

STANLEY, JAMES K.

Metallurgy and magnetism. A series of three educational lectures on metallurgy and magnetism presented to members of the ASM during the thirtieth National Metal Congress and Exposition Philadelphia October 23 to 29 1948 Cleveland American Society for Metals 1949 156 p. illus. 23 cm $4.00. 2454

Contents Magnetic theory and definitions. Types of magnetic materials. Factors affecting magnetic properties. Magnetic analysis—a metallurgical tool. Appendixes: Conversion table. Testing of magnetic materials References. Index

Note. A short but informative introduction which is addressed to metallurgists rather than to physicists The treatment assumes familiarity with metallurgical concepts, terms, and with the reading of engineering graphs. Essentially the work is an outline which is adequate in itself for the metallurgists who want merely a general understanding of magnetism. However key numbers directly in the text refer to the bibliography which includes 237 references to patents and periodical articles.

STANSEL NUMAN R.

Induction heating. New York McGraw Hill Book Company Inc. 1949 212 p. illus. 24 cm. $5.00 2455

Contents Introduction. Heat Induction heaters—class A service. Circuit equations. Circuit analysis. Applications—class A service Melting metals—class B service. Power circuit conductors—switching frequencies. References. Appendixes. Index

Note: The use of induced electrical currents for the melting or heat-treating of metals is the subject of this book Chiefly the author presents the basic electrical and thermal principles in terms which are understandable to engineers. Much of the information is presented mathematically and graphically Altogether there are 31 tables and 154 figures. Typical applications are discussed also but there is no special effort to show a wide range of available commercial equipment. The appendixes contain a range of information useful to engineers who are concerned with the design and operation of induction furnaces and other induction heating equipment

WULFF JOHN, AND OTHERS

Metallurgy for engineers casting, welding and working. By John Wulff Howard F Taylor and Amos J Shaler Illustrations by George E. Schmidt, Jr New York John Wiley & Sons Inc., 1952 624 p. illus. 22 cm. $6.75 2456

Contents (abridged): Crystalline structure and properties of metals. Impurity and solubility Phase equilibrium and alloy systems. Industrial non ferrous alloys. Alloys of iron and carbon. Heat treatment of steel. Methods for determining mechanical properties of metals. Mechanism of deformation and effects of deformation of metals. Electrical and magnetic properties of metals. Corrosion. Introduction to sand casting processes. Casting processes other than sand casting. The ingot as a casting. Melting—heat flow—gases in metals. Powder metallurgy Welding. Brazing and soldering. Metal working by compression processes. Stretching, shearing, and bending processes. Metal cutting. Appendix. Index.

Note: The extraction of metals from their ores is not covered in this book, but otherwise it is an inclusive treatment particularly suited to the needs of engineering students and graduate engineers whose interest in metals is confined to their properties and working. There are brief but clear explanations of such basic ideas as the phase rule and of such processes as investment casting. Selected literature references are included with each chapter. The appendix contains also tables of general usefulness in metal specification and design. The authors are members of the Department of Metallurgy of Massachusetts Institute of Technology

POWDER METALLURGY

GOETZEL CLAUS GUENTER

Treatise on powder metallurgy New York Interscience Publishers, Inc. 1949–52 3 vol. illus. 23 cm. Vol. I $18.00 Vol. II, $18.00 Vol. III $22 00 2457

Contents (abridged) Volume I, Technology of metal powders and their products Principles. History Methods of powder production. Characteristics and properties of powders. Methods of testing powders. Powder conditioning and function of addition agents. The molding of powders into solid forms. Dies and punches. Presses. Hot pressing apparatus and techniques. Sintering practice. Subsequent working. Finishing treatments. Author index. Subject index. Volume II, Applied and physical powder metallurgy: Refractory metals and alloys. Hard metals and compositions. Electrical materials and products. Magnetic materials and products. Materials for structural parts. Porous products. Friction products. Dental alloys. Comparison of physical properties of sintered and fused industrial metals and alloys. Stress analysis of sintered metal structures. Appraisal of and alternating methods for sintered metals. Theories of bonding and sintering The future of powder metallurgy Author index. Subject index. Volume III, Classified and annotated bibliography: Part one, Literature survey Part two, Patent survey Patent cross index. Subject index. Name index.

Note A comprehensive survey of the science and technology of powder metallurgy It is based on the literature and on the author's personal experiences in the field. He is Director of Research for the Sintercast Corporation of America and also Adjunct Professor of Chemical Engineering in New York University Although the pertinent theory is adequately covered, most of the space in volumes I and II is taken up with the technical aspects. Manufacturing, fabricating, and testing methods are presented in detail Statements in the text are keyed to the literature citations. There are 4[illegible] figures in volumes I and II. The bibliography is classified and contains full indexes. There are 899 pages in this volume.

KINGSTON WALTER E editor

The physics of powder metallurgy A symposium held at Bayside, L. I., New York, August 24–26 1949 sponsored by the Metallurgical Laboratories Sylvania Electric Products Inc. New York McGraw-Hill Book Company Inc. 1951 404 p. illus. 24 cm. $9.00 2458

Contents Fundamental problems of sintering processes, by W E Kingston and G. F Hüttig. Mechanism of crystal growth, by A. G Smekal Orientation in recrystallization and grain growth, by F A. Back Recrystallization, by M. Rabkin. Structure and behavior of grain boundaries, by M. R. Achter and R. Smoluchowski. Self-diffusion in iron, by F S. Buffington and others. Homogeneous nucleation, by D. Turnbull and J. H. Hollomon. Surface tension as a motivation for sintering, by C. Herring. Relationships between properties and structure of sintered material made up of single crystal types, by G. F Hüttig and others. Shrinkage of synthetic pores in copper by A. W Pentecoste and A. J. Shaler. Relations between diffusion and viscous flow in metals, by B. H. Alexander and others. Examination of sintered structures with the electron

microscope, by L. Delisle and G. A. Davis. Sintering of copper-gold alloys, by F Duwez and C. B. Jordan. Sintering with liquid phase, by F V Lenel. The principles and present status of hot pressing, by C. G. Goetzel. Theoretical aspects of sintering of carbides, by R. Kieffer. Experimental production of pure titanium carbide powder by means of carburizing gases, by V Fattinger. Nature of metal powders prepared by reduction of oxides, by B. Kopelman. Particle-size distribution of tungsten and molybdenum powders, by A. D. Power and I. M. Kolthoff. Electrical properties as indicators of the degree of sintering, by H. H. Hausner and J. H. Dedrick. Fundamentals of pressing of metal powders, by R. P Seelig. Alloy powder products from fully alloyed powders, by G. J. Comstock and J. D. Shaw. Name index. Subject index.

Note: A valuable contribution to the literature of this subject. Although there is much in it that is of interest to men directly in charge of the production of metal parts from metal powders, fundamental aspects rather than details of techniques are stressed. The papers are accompanied by condensations of the discussions that followed their presentation and many of them contain literature references.

IRON AND STEEL

American Institute of Mining and Metallurgical Engineers

Basic open hearth steelmaking by the Physical Chemistry of Steelmaking Committee, Iron and Steel Division A I M E. Second edition, completely revised and enlarged. Edited by W O Philbrook and M B Bever in collaboration with H. B Emerick and B M. Larsen. (Sponsored by the Seeley W Mudd Memorial Fund) New York The American Institute of Mining and Metallurgical Engineers, 1951 940 p illus. 26 cm. $8 00. 2459

Contents: Part I, Practice: Basic open hearth furnaces, by H. K. Work and H. M. Banta. Survey of operations, by T S. Washburn. Open hearth refractories, by R. B. Sosman and others. Open-hearth fuels, combustion, and instrumentation, by H. V Flagg and others. Raw materials, by T L. Joseph and others. Slag control, by W O. Philbrook and F M. Washburn. Charging and melting practice, by W O. Philbrook and others. Refining practice, by W O. Philbrook and others. Finishing and deoxidation practice, by K. R. Belding and R. K. Kulp. Molds and pouring practice, by H. J Forsyth and L. G. Ekholm. Ingot structure and segregation, by J W Halley. Nonmetallic inclusions, by C. E. Sims. Properties of steel as influenced by constitution, by A. G. Forrest and R. W Farley. Part II, Principles: Physical chemistry of high-temperature reactions, by J. Chipman. Kinetics of metallurgical processes, by L. S Darken. Physical chemistry of liquid steel, by John Chipman. Physical chemistry of slag-metal reactions, by G Derge and M. Tenenbaum. Physical chemistry of open-hearth refractories, by R. B. Sosman. Thermal changes in melting and refining, by L. S. Darken. Gas flow and heat transfer, by B. M. Larsen. Combustion and utilization of fuel, by B. M Larsen. Rates of open-hearth reactions, by B. M. Larsen. Index.

Note. (4301) In this book the most important process for the manufacture of steel is described both for workers with only practical interests and for supervisors and metallurgists who need more basic understanding. The work is a cooperative one and the authors of the various chapters are prominent metallurgists, chemists, etc. currently associated with steel manufacturing or with the teaching of metallurgy in colleges of engineering. Useful literature lists are included in the chapters. The first edition was published in 1944. Extensive revisions were made in preparing this edition, and the book is now about 300 pages longer.

American Society for Testing Materials

Symposium on evaluation tests for stainless steels, presented at the fifty-second annual meeting of the American Society for Testing Materials, Atlantic City June 30 1949 Philadelphia American Society for Testing Materials, 1950. 231 p. illus. 23 cm. (American Society for Testing Materials. Special technical publication no. 93) Paper $2.50 2460

Contents. Introductory summary by F L. LaQue. Present knowledge of low-carbon 18-8, by H. W Gillett. Corrosion resistance and mechanical properties of low-carbon austenitic stainless steels, by D. C. Buck and others. Accelerated corrosion testing of chromium-nickel stainless steel weldments, by F K. Bloom and M. K. Carruthers. An appraisal of methods for evaluating the corrosion resistance of stainless steels, by M. H. Brown and others. Some observations on tests for intergranular susceptibility of 18-8 Mo stainless steels, by H. Ebling and M. A. Scheil. Influence of carbon and molybdenum on the intergranular corrosion resistance of austenitic chromium-nickel steels with and without columbium, by W O. Binder and C. M. Brown. Comparative corrosion resistance of stainless steels in various acids, by R. B. Mears and others. Comparison of plant corrosion test results on austenitic stainless steels with results of Huey and Strauss tests, by H. O. Teeple. Results of some plant corrosion tests of welded stainless steels, by G. F Comstock. Testing multiple specimens of stainless steels in modified boiling nitric acid test apparatus, by W B. DeLong. General discussion.

Note: The symposium of which this publication presents the papers was sponsored by A.S.T.M. Committee A-10 on Iron-Chromium, Iron-Chromium-Nickel, and Related Alloys. Its purpose was to permit critical appraisal of some of the testing methods in use for evaluating certain corrosion-resistant characteristics of these alloys.

Bullens Denison Kingsley and others

Steel and its heat treatment. Volume III Engineering and special-purpose steels by D K. Bullens and the Metallurgical Staff of the Battelle Memorial Institute. Fifth edition. New York John Wiley & Sons, Inc., 1949 606 p. illus. 24 cm. $8 50 2461

Contents. Section I, Engineering alloy steels. Limitations of carbon steels. Alloy effects on equilibrium and nonequilibrium diagrams. Alloying elements present in minor percentages. Behavior and costs of some individual alloying elements. Alloy steels for normalizing. Section II, Constructional alloy steels for heat treating: Simple alloy steels. Binary or double-alloy steels. Complex alloy steels. Steel castings. Toughness and serviceability at high hardness; quenching stresses and quenching cracks. Steels for quenched and tempered springs. Alloy steels for carburizing. Section III, Special steels: Nitriding steels. Steels for low-temperature service. Ferritic steels for high temperature use, their properties and weldability. Austenitic steels for high temperature uses. Steels for corrosion and high-temperature resistance, especially corrosion. Steels for wear resistance. Carbon and intermediate tool and die steels. High speed tool steels. Steels for magnetic uses. Index of steels. Subject index.

Note. Volumes I and II of the fifth edition of this useful work were reviewed in entry 2114 in *Scientific, medical and technical books published in the United States of America—Supplement of books published 1945–1948.* The third volume corresponds in scope to volume II of the fourth edition. As were the first two volumes, this volume has been very thoroughly revised. It presents the current knowledge of the relationship between the presence of the various alloy elements and the use of various heat treatments upon the properties of commercially used steels and steel alloys. The treatment is theoretical in the sense that the various known effects are related to the underlying principles insofar as these are known; but the book is intended for practical engineers and metallurgists and is written from their viewpoint. Each chapter is accompanied by a bibliography of considerable length.

Comstock, George Frederick, and others

Titanium in steel by George F Comstock, Stephen F Urban and Morris Cohen. New York Pitman Publishing Corporation, 1949 320 p. illus. 24 cm. (Pitman metallurgy series, Frank T Sisco advisory editor) $7.50 2462

Contents: The physical chemistry of titanium in steel. Phase diagrams of titanium alloys and compounds. Titanium in rimming and deoxidized steels. Titanium in cast steel. Effect of titanium on structure and hardenability. General effects of titanium on the properties of steel. Titanium in low-alloy steels. Effect of titanium on strain aging. Titanium-containing steel. Carbide stabilization of

stainless steel with titanium. Titanium in precipitation-hardening steels. *Titanium in heat-resisting steels and alloys.* Bibliography. Name index. Subject index.

Note: A concise presentation of technical information on the effects of use of titanium as deoxidizer, carbon- and nitrogen-stabilizing element, and alloying metal in steel. Data are presented in short synopses, tables, and graphs, which are based mainly on the literature of the past two decades. Of the 174 references in the bibliography only 34 were published before 1930, and over half were published in the last ten years. The book is primarily of interest to metallurgists in the steel industry and secondarily to engineers in the steel-using industries.

CRAFTS, WALTER, AND JOHN L. LAMONT

Hardenability and steel selection New York Pitman Publishing Corporation 1949 279 p illus. 24 cm. (Pitman metallurgy series Frank T Sisco advisory editor) $5.50 2463

Contents. The hardenability pattern. Heating for hardening. The transformation of austenite. Quenching. Hardness and hardenability. Hardenability test methods. Jominy hardenability control. Tempering after hardening. Mechanical properties and hardenability. Factors in the selection of steel. Appendices. Bibliography. Name index. Subject index.

Note. As these authors point out, the heat treatment of steel was known in ancient times and the operations of quenching and subsequent tempering are described rather fully in early classical writings. *However it is only in recent years that heat treating processes have* been thoroughly studied and their effects correlated with conditions and results to the extent that the hardenability of steel of given composition can be predicted with fair accuracy. In the past two decades and especially in the latter one many investigations have been made and the periodical literature has grown tremendously. Essentially this book is condensed summary of this new knowledge. It is organized and written primarily for engineers and other technically trained persons. The text is supplemented by large amount of data presented tabularly and graphically. The bibliography contains 119 references.

JOSEPHSON G W AND OTHERS

Iron blast furnace slag production, processing, properties, and uses. By G W Josephson, F Sillers jr and D G Runner A report prepared in cooperation with the National Slag Association based on data gathered and compiled by the Problems Committee of the Association. Washington D C. Government Printing Office, 1949 304 p. illus 23 cm. (United States. Bureau of Mines. Bulletin 479) Paper $1.00 2464

Contents. Introduction. *History and development. Production and* processing of iron blast-furnace slag. Chemical and mineralogical composition of iron blast-furnace slag. Physical properties of blast-furnace slag. Blast-furnace slag as aggregate for portland-cement concrete. Blast-furnace slag as aggregate for flexible-pavement bases and surfaces. Chemical and ceramic uses of blast-furnace slag. Railroad ballast, roofing, and other uses. Appendixes. Materials required per cubic yard for concrete and cement mortars, by F Hubbard. Composition of asphaltic concrete, hot- and cold-mixed types, by F Hubbard and others. Specifications and methods of tests—A.S.T.M., Federal Specification Board, and A.A.S.H.O. Miscellaneous test procedures. Useful tables. Comprehensive bibliography. Index.

Note. This bulletin is devoted to iron blast-furnace slag, its production, processing, physical and chemical properties, and utilization. It is summary of information from the published literature, and is intended for engineers, contractors, architects, chemists, and others who wish to understand and more successfully use this by-product of the iron and steel industry.

SEABRIGHT LAWRENCE H

The selection and hardening of tool steels. New York McGraw-Hill Book Company, Inc., 1950 263 p illus. 24 cm. $6.00. 2465

Contents. Introduction, classification of tool steels: Primary steel requirements. Composite chemical analysis of steels in each group. Tool steels classified by wear-toughness table. Chemical composition of representative tool steels. The wear-toughness ratio in rec- ommended steels for various applications. Part I, Water hardening steels: *Group 1* Maximum wear resistance—movement in hardening unimportant. Group 2 General cutting tools—movement in hardening unimportant. Group 3, General die work—movement in hardening unimportant. Group 4 Maximum toughness—movement in hardening unimportant. Part II, Oil- and air-hardening steels: Group 5 Maximum wear resistance—movement in hardening important. Group 6, General cutting tools—movement in hardening important. Group 7 General die work—movement in hardening important. Group 8, Maximum toughness—movement in hardening important. Part III, High-speed and hot-work steels. Group 9, Maximum wear resistance—resistance to high temperatures important. Group 10, General cutting tools—resistance to high temperatures important. Group 11 General die work—resistance to high temperatures important. Group 12 Maximum toughness—resistance to high temperatures important. Appendix. Hardness conversion table. Temperature conversion table. *Producers and distributors.* Index of tool steels. Subject index.

Note. A compact reference book designed as systematic guide to the composition and properties of the commercially available tool steels. Information on the heat treatment and working of the individual steels is included also. The book will be useful to tool designers, metallurgists, and other technically trained people whose work requires an understanding of tool steels. In the "Index to tool steels," steels marketed in the U.S.A. under trade names are listed and the names of the suppliers are given.

ZAPFFE CARL ANDREW

Stainless steels an elementary text for consumers. Cleveland American Society for Metals 1949 368 p. illus. 23 cm. $5.00. 2466

Contents: Historical background of the stainless steels. The corrosion resistance of the stainless steels. The metallurgical constitution of the stainless steels. Martensitic stainless steels. Ferritic stainless steels. Austenitic stainless steels. Production, fabrication and finishing. Glossary. Bibliography. Author index. Subject index.

Note. The consumers referred to in the title are not the ultimate purchasers of pots, pans, automobiles, etc., but manufacturers and purchasing agents who buy stainless steels for fabrication into finished products. The book provides nontechnical descriptions of the various important alloys known as stainless steels. The emphasis is on their properties, but considerable amount of space is given also to the history of the stainless steels and to the ways in which they are manufactured. An excellent glossary and an extensive bibliography of the periodical and patent literature are included.

VARIOUS METALS

AMERICAN SOCIETY FOR METALS

Physical metallurgy of aluminum alloys. A series of five educational lectures on physical metallurgy of aluminum alloys presented to members of the A. S. M during the twenty-eighth National Metal Congress and Exposition Atlantic City Cleveland American Society for Metals 1949 247 p. illus. 23 cm. $5 00. 2467

Contents Equilibrium diagrams of aluminum alloys, by W. L. Fink. Metallography of aluminum alloys, by F. Keller. Commercial wrought aluminum casting alloys, by W. E. Sicha. Commercial wrought aluminum alloys, by J. A. Nock, Jr. Thermal treatment of aluminum alloys, by E. H. Dix, Jr.

Note. A collection of lectures originally addressed to men concerned in practical ways with metallurgical research and development. The pertinent literature has been consulted and is referred to in the discussions. Especially impressive is the bibliography of 111 ... on the determination and interpretation of equilibrium diagrams. The lecture on metallurgy includes many excellent micro-photographs of structure.

BARKSDALE JELKS

Titanium its occurrence, chemistry and technology New York The Ronald Press Company 1949 591 p. illus. 24 cm. $12.00. 2468

Contents (abridged) The discovery of titanium. Geology and mineralogy of titanium. Production and imports of titanium bearing ores. The chemistry of elemental titanium and its oxides. The chemistry of titanium salts. Organic compounds of titanium. Methods of chemical analysis of titanium compounds. Production of sulfate solutions of ilmenite for pigment manufacture. Hydrolysis of titanium sulfate solution. Filtering and washing hydrous titanium dioxide acid recovery Composite pigments. Calcining, milling, and processing titanium dioxide to produce pigments. Colored titanium dioxide and titanate pigments. Chloride processes of pigment manufacture. Fluoride, nitrate, sulfide, and chloracetate processes of pigment manufacture. Titanium pigment industry Uses of titanium pigments. Iron and steel. Nonferrous metals and alloys. Hard alloys. Electrical industry Ceramics. Mordants and dyes. Catalysts. Special applications. Literature cited. Index.

Note: A comprehensive survey of the science and technology of the metal titanium and its derivatives. A considerable part of the volume is devoted to the production of titanium pigment for use in paint and elsewhere as an obscuring or coloring material. However, all of the reported uses are described, including such specialized applications as reagents in chemical analysis. The bibliography covers the international literature, including the patents. It runs to 77 pages and contains several thousand references.

DEAN REGINALD SCOTT

Electrolytic manganese and its alloys. New York The Ronald Press Company 1952 257 p. illus. 24 cm. $12.00 2469

Contents: Production and properties of electrolytic manganese. Nonferrous alloys of electrolytic manganese. Ferrous alloys of electrolytic manganese. Index of names. Index of subjects.

Note. The author of this technical monograph was leading figure in the development of electrolytic manganese during his years of association with the United States Bureau of Mines. Here he presents the current knowledge of both the metal itself and its alloys. The discussions of the production and properties of electrolytic manganese run to only 82 pages; hence more than two-thirds of the book is given to descriptions of the alloys. These descriptions include wide range of specific data on properties, heat treatment, and applications. The book is based on digest of the periodical and patent literature, and each of the chapters is accompanied by long list of references.

DORR, JOHN VAN NOSTRAND, AND FRANCIS L. BOSQUI

Cyanidation and concentration of gold and silver ores. Second edition. New York Mc Graw Hill Book Company Inc. 1950 511 p. illus. 24 cm. $9 00 2470

Contents: Part 1 Technical: Historical. Examination and testing of ore. Coarse crushing. Sorting and sampling. Fine grinding. Classification. Sand treatment. Slime treatment. Concentration. Roasting. Amalgamation and bullion recovery Plant control. Cyanicides and refractory ores. Cyanide regeneration and miscellaneous processes. Part 2, Descriptive Treatment of gold ores. Treatment of silver ores. Costs and power. Appendices Useful reference information. Books on cyanidation. Analytical methods. Index.

Note: (4097) The standard book on the economically important processes of recovering gold and silver from ores. The first edition was the work of the senior author alone. In the present edition the book has been reorganized and extensively rewritten. Important material added includes new discussions of the treatment of refractory ores and the chemistry of cyanide solutions. The descriptions of considerable number of ore treatment plants which have been constructed since 1936 are now included in the second part. The work is of interest to advanced students in mining engineering and to practicing engineers.

MANTELL, CHARLES LETNAM

Tin its mining, production, technology and applications. Second edition New York Reinhold Publishing Corporation, 1949 573 p. illus. 24 cm. (American Chemical Society monograph series) $12.00 2471

Contents: History Physical and chemical properties of the metal. Production, distribution, and consumption. Ores and ore deposits. Mining and ore dressing. Metallurgy Gaseous reduction, leaching and metallic reduction. Electrolytic refining. Plating. Electrolytic tin plate. Constitutional thermal equilibrium diagrams—binary alloys. Ternary and quaternary alloys. Alloys in industry Hot-dipped coatings. Foil and collapsible tubes. Compounds. Corrosion. Corrosion of tin plate by food products. Secondary tin. Detinning of tin-plate scrap. Analytical methods. Name index. Mines and localities index. Subject index.

Note: A comprehensive monographic treatment. The larger part of the book is concerned with the metallurgy of tin after it has been extracted from the ore, and with the chemistry and commercial uses of tin. There is little resemblance, other than subject, between the present edition and the first edition of the work published in 1929. The contrast is due not to any change in purpose but to the great increase in the knowledge and uses of that metal which has taken place during the past twenty years. The literature of the subject, including patents, is referred to in footnotes.

RAUDEBAUGH ROBERT JOHN

Nonferrous physical metallurgy New York Pitman Publishing Corporation, 1952 345 p. illus. 24 cm. (Pitman metallurgy series) $9 00 2472

Contents. Aluminum and its alloys. Magnesium and its alloys. Copper and its alloys. Nickel and nickel alloys. Alloys of cadmium, lead, tin, and zinc. Some less widely produced nonferrous metals and their alloys. Powder metallurgy and refractory-metal composites. Author index. Subject index.

Note. A concise and practical account of the various techniques employed in the processing, fabrication, and application of the more important nonferrous metals. Particular attention is given to recent developments in the field such as the melting and casting of molybdenum, fabrication of ductile titanium, and the utilization of powdered metals. Numerous micrographs, tables of alloy properties and composition, and chapter bibliographies are included. Of interest primarily to metallurgical students and others requiring review of modern metallurgical practices.

MARINE ENGINEERING

ADAIR JAMIE AND THOMAS C GILLMER

Fundamentals of naval construction and damage control. Annapolis, Md. United States Naval Institute, 1951 272 p. illus. 28 cm $6 00 2473

Contents Planning and building the ship. Definitions and geometry of the ship. Resistance, propulsion and steering. Buoyancy Equilibrium of floating bodies. Initial stability Overall stability Weight effects on stability Impaired stability Control of damage. Forces on ship involving motion. Submarine buoyancy and stability by E. E. Allmendinger Weight and strength of ships. The ship's structure. Appendix Approximate method of integration in ship calculations. Index.

Note: A textbook on damage control for the use of midshipmen in the course in the Department of Marine Engineering at the United States Naval Academy entitled "Naval construction and damage control. The authors emphasize the importance of such fundamentals as nomenclature, buoyancy and stability resistance and propulsion, and weight and strength, to officers responsible for damage control. The textbook covers this whole area of theoretical naval knowledge, including the pertinent fundamentals of naval architecture.

UNITED STATES NAVAL ACADEMY

Naval auxiliary machinery Revised 1952 Annapolis, Md. United States Naval Institute, 1952 262 p. illus. (part col d) 28 cm. $4 00 2474

Contents. Piping, fittings and valves. Packing and heat insulation materials. Pumps and air ejectors. Blowers Heat exchanger equipment. Condensers. Distilling plants. Feed water systems. Fuel oil system. Refrigeration equipment. Compressed air systems. Centrifugal oil purifiers. Control instruments. Machinery outside the engineering spaces. Fire-fighting equipment Appendix Additional pumps. Additional forced draft blowers. Additional feed water systems and attendant units. Index.

Note: A textbook prepared for use in the United States Naval Academy this publication covers not only the pumps, blowers, distilling plants, and the oil and water systems, but also the appurtenances essential to their combined effective operation as part of the naval engineering plant, such as piping, valves, fittings, and insulating materials. Also discussed in the light of their contribution to the ship's primary function are the refrigeration and compressed air systems. Coverage likewise extends to important shipboard auxiliaries located outside the engineering spaces, such as the steering gear windlasses, and weight-handling equipment. Emphasis is upon the details of construction and the operating principles of the machinery

UNITED STATES. NAVAL ACADEMY

Naval boilers, revised, 1949 Annapolis, Md. United States Naval Institute 1950 184 p. illus. 28 cm. $4 00 2475

Contents: Elementary principles. Descriptive classification. Limitations on boiler capacity General features in the development of express boilers. Construction details of express boilers. Boiler fittings. Forced circulation boilers. Boiler feed water and its treatment. Fuel oil and fuel oil burners Appendix Terms, fittings or parts obsolete or obsolescent on naval boilers but still in use on merchant marine ships or shore establishments. Types and description of boilers obsolete or obsolescent on naval vessels but still in use on merchant marine ships or shore establishments Specific designs and data on modern express boiler types. General lighting off, securing and casualty procedure with sample safety precautions. Index.

Note: A textbook developed at the United States Naval Academy and used there in course taken by first-year midshipmen. It covers in descriptive style the construction features and operating principles of steam generating equipment used in vessels of the United States Navy Much of the material is of course applicable to similar equipment in merchant vessels.

UNITED STATES. NAVAL ACADEMY

Naval turbines revised 1952 Annapolis, Md. United States Naval Institute, 1952 128 p illus. 28 cm. $4.00 2476

Contents. Elementary principles. Descriptive classification. Details of construction. Turbine accessories. Measurements and adjustments. Main propulsion turbine control and cruising arrangements. Auxiliary turbines and their control. Lubrication. Main propulsion shafting and propellers. Appendix: Additional turbine classifications. Additional turbine accessories and auxiliaries. Additional measurements and adjustments. Main propulsion turbine overspeed control. Index.

Note Prepared primarily for the use of midshipmen of the United States Naval Academy this textbook covers the details of construction and the operating principles of main propulsion and auxiliary turbines used aboard modern naval vessels. The subject matter presented in descriptive manner in order to familiarize the student with the machinery he will encounter aboard ship and to provide background for the theoretical studies in subsequent courses in fluid mechanics and thermodynamics. The text is illustrated with extremely clear diagrammatic drawings and 7 folding plates giving design details of different types of turbines. The book is included in the bibliography for promotion examinations of officers of the United States Navy and should be of value also to any [illegible] or engineers concerned with turbines on naval ships. The publication is revision of *Naval turbines* published by the United States Naval Institute in 1949.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Marine fouling and its prevention. Prepared for Bureau of Ships, Navy Department, by Woods Hole Oceanographic Institution, Woods Hole, Massachusetts. Annapolis, Md. United States Naval Institute, 1952 388 p. illus. 27 cm. (Woods Hole Oceanographic Institution. Contribution no. 580) $10.00. 2477

Contents Part I, Problems of fouling: The effects of fouling. Ship resistance. Part II, Biology of fouling: The fouling community. Temporal sequences and biotic successions. The seasonal sequence. Quantitative aspects of fouling. Geographical distribution. Relations to local environments. The principal fouling organisms. Species recorded from fouling. Part III, Prevention of fouling: The history of the prevention of fouling. The invention of protective devices. Factors influencing the attachment and adherence of fouling organisms. The prevention of fouling with toxics. The physical chemistry of compounds of copper and mercury and their interactions with sea water Mechanism of release of toxics from paints. The dissolution of the matrix and its ingredients. Characteristics of antifouling coatings. The design of antifouling paints. The testing of antifouling paints. The fouling of metallic surfaces. Interaction of antifouling paints and steel. Index.

Note. A monograph based on investigations made during the years 1940–1946 by the staff of the Woods Hole Oceanographic Institution. The purpose of the research was to increase scientific knowledge of the fouling process and of the way in which protective coatings act. The emphasis was upon exploration of the fundamental basis on which preventive techniques must rest, rather than upon the improvement of existing paint formulations. The publication, which includes many photographs and other illustrations and gives extensive bibliographical references, amounts to complete encyclopedia on the subject of fouling, and should be of great value to persons interested in the problem, including naval officers, ship owners and operators, naval architects and engineers, paint manufacturers, shipbuilders, and all concerned with the maintenance of ships and various underwater installations.

NAVIGATION

CALAHAN HAROLD AUGUSTIN

The sky and the sailor a history of celestial navigation. New York Harper & Brothers, 1952 262 p. illus. 22 cm. $4 00 2478

Contents: Navigation with [illegible] can opener. Before the dawn of science. The beginnings of astronomy Eratosthenes measures the earth. Claudius Ptolemy The dark ages. The mariner's compass. The sacred calabash. Prince Henry the Navigator Columbus. Out of the printing press. Mercator and the sea chart. Three mathematicians—Kepler Vernier Andrew The problem of latitude. The sextant. Longitude and time. The chronometer Observatories and almanacs. Bowditch. The Sumner line. Maury The development of the Sumner line. The future. Glossary

Note: An informal account in which the slow development of navigation is dramatized in [illegible] series of essays about outstanding men and discoveries. The author's style is personal and humorous, but his facts are based on extensive research. The book will appeal to anyone who desires an easy-to-read story of the highlights of how man learned to find his way at sea. There is no index or bibliography

CUGLE, CHARLES HURST

Cugle's practical navigation. Sixth edition, completely revised by I. J Stephens. New York E P Dutton & Company 1952 823 p. illus. 25 cm $15.00 2479

Contents (abridged): The international and inland rules of the road. Extracts from general rules and regulations (ocean and coast wise) and navigation laws of the United States. Deck officer's information. Stability and hull construction. Mathematics of navigation. Explanation of tables in the American practical navigator (Bowditch). Chart navigation. Dead reckoning and day's work. Speed of ship by wheel and percentage of slip. Construction of [illegible] mercator chart. Middle latitude sailing. Great circle sailing. Time. Latitude by meridian altitude of sun. Meridian passage of star. Meridian passage of planet. Meridian passage of moon. Latitude by Polaris. Deviation by time azimuth of sun. Deviation by star planet and moon. Longitude by sun. Longitude by planet. Longitude by moon. The line of position. Intersection of lines of position by computation. Tides and currents. Identification of stars.

Note: (4299) A standard book of rules and problems for students and amateur navigators, first published in 1914. The treatment is elementary and practical, and only essential theory is included. This edition has been revised to conform with the change in format of the American Nautical Almanac introduced in 1950. The Greenwich hour angle (G.H.A.) system of computing time is now employed, and new material has been added on the magnetic compass, electronic aids to navigation, and fuel conservation.

DUTTON BENJAMIN

Navigation and nautical astronomy Tenth edition. Prepared for the instruction of midshipmen at the United States Naval Academy Original edition (1926) by Commander Benjamin Dutton, U S Navy Revised by Commander Edwin A. Beito U S. Naval Reserve, under the direction of the Head of Department of Seamanship and Navigation, United States Naval Academy Annapolis, Md. United States Naval Institute, 1951 850 p. illus. (part col d) 26 cm. $6.00 2480

Contents: Preliminary definitions; chart projections. Instruments used by the navigator. Magnetic compass errors. The sailings. Publications and charts. Dead reckoning and piloting. Electronic navigation. Nautical astronomy Lines of position from celestial observations. The marine sextant; correction of sextant altitudes. Computed altitude and azimuth. Finding *t*, *d*, and *tL*. The complete solution for [illegible] celestial line of position. Latitude observations. Sunrise, sunset, moonrise, moonset, star identification curve of magnetic azimuths. The practice of navigation. Air navigation. Polar navigation. Lifeboat navigation. The maneuvering board. Appendices. Index.

Note: (4301a) A standard text and reference book of navigation and astronomy for midshipmen and naval officers. The new edition is revised and enlarged, and includes [illegible] complete explanation and discussion of the new type (1950) Nautical Almanac. The articles on the gyro compass and logs have been extensively revised; the chapter on the maneuvering board has been expanded; and numerous minor changes have been made to include recent developments. The edition also marks the substitution, to conform with the new practice, of "mean time" for "civil time.

GIBSON EDMUND A.

Basic seamanship and navigation. New York McGraw Hill Book Company Inc. 1951 414 p. illus. 24 cm. $6 00. 2481

Contents: Part i, Seamanship General ship description Marlinspike seamanship. Deck seamanship. Cargo handling. Ground tackle. Boats. Ship handling. Towing and salvage. Canvas and leather. Part ii, Navigation. Rules of the road. Fundamentals of navigation. Navigational aids. Instruments. Time and timepieces. Dead reckoning—piloting. Electronic navigation. Celestial navigation. Glossary Index.

Note: A practical introductory guide. It is written in [illegible] lucid style, and there are about 170 reproductions of line drawings. Nautical language is used freely but basic terms are defined in the text when first introduced and others can be found in the 40-page glossary The first part runs to about 190 pages. The 133-page second part contains an elementary but inclusive survey of present-day marine navigation, including electronic systems.

MIXTER GEORGE WEBBER

Primer of navigation. Third edition. With problems in practical work and complete tables. Revised for third edition by Ramon O Williams. New York D Van Nostrand Company Inc. 1952 553 p. illus. 24 cm. $7.50. 2482

Contents: Introduction. Tools of the trade. The magnetic compass. Errors of the compass. Compass adjustment. Gyro systems. Lights, buoys, and beacons. They prevent collisions. Piloting Radar on board ship. Mariners' maps. Dead reckoning Loran and radar. Outward bound. Lighthouses in the sky Sumner lines. Nautical astronomy The sextant and its use. Altitudes and their correction. The bubble sextant. Time. The chronometer and timekeeping The Almanac and it use. The Air Almanac. Methods. The noon sight. Polaris. Azimuths. Solutions for lop. Days with the sun. The stars. Planets and the moon. All in [illegible] day Zero hour. Appendix. Index.

Note: (4314) A comprehensive text for students of navigation and experienced seamen. Navigational methods are presented as simply as possible, and the treatment requires no mathematical knowledge beyond simple arithmetic. All tables necessary for solving the numerous problems and exercises are included. Like other texts on navigation published since 1950, this volume has been revised to conform with the changes made in the 1950 edition of the American Nautical Almanac. A chapter on electronic navigation and [illegible] brief biography of George Mixter, who died in 1947 have been added to this edition.

ORMAN LEONARD M

Electronic navigation. Published jointly by Pan American Navigation Service and Weems System of Navigation. North Holly

wood, Calif 1950 222 p illus. 25 cm. $4.50 2483

Contents: Introduction to radar. Capabilities and limitations of radar as a navigational aid. Training of operators. Installation and maintenance. Loran. Other electronic navigation systems. Auxiliary radar devices. Appendixes: Available radar and loran. Questions and answers. Glossary. Bibliography. Index.

Note: A practical book for student navigators. It provides information on loran, decca, radar and several other electronic systems for finding position at sea and in the air. Both the U. S. A. and British systems are covered. The treatment is introductory and descriptive.

WILLIAMS RAMON O AND GEORGE WEBBER MIXTER

Navigation problems and solutions. Practical work—solutions—plotting—almanac data. New York D Van Nostrand Company Inc. 1951 162 p illus. 28 cm. $5 00 2484

Contents: Dead reckoning. Sumner line work. Moon sight problems. Latitude by Polaris. To solve for LOP. Work with the sun. Three star fixes. Planet and moon work. Practical work. Answers to plot. Excerpts from Nautical almanac. Excerpts from Air almanac. Excerpts from H. O. no. 214.

Note: A useful collection for student navigators. It contains a wide variety of problems which are similar to those given in Naval Reserve Officers training courses in the United States of America. Detailed solutions of these problems and almanac tables used in working out the solutions are both included.

ZWENG, ALLAN C.

Practical manual of the E-6B computer Second revised edition. North Hollywood, Calif Pan American Navigation Service, 1952 133 p. illus. 27 cm $3.00. 2485

Note: A study guide and instruction manual for the E-6B computer, a mathematical instrument which is very widely used in solving problems in air navigation. In the exposition manipulations of the computer in solving various problems are explained step by step. Many worked examples are included and there are several hundred practice problems for the student. The first edition appeared in 1944. Added in this edition are some new problems and descriptions of two new computers, the E-6C and the E-10.

AERONAUTICS

GENERAL

BAUGHMAN, HAROLD EUGENE

Baughman's Aviation dictionary and reference guide. Revised by Ernest J Gentle & Charles Edward Chapel. Third edition. Los Angeles Aero Publishers Inc. 1951. 653 p. illus. 24 cm. $7.50. 2486

Contents (abridged) Dictionary: Definitions, 2nd edition. Abbreviations. New definitions, 3rd edition. Reference guide: Radar information. Illustrated nomenclature. Useful tables. Radio range orientation. General structural symbols & formulas. General aerodynamics symbols & formulas. Specifications. Materials. Shop mechanics. Safety rules.

Note: (4345) A standard reference book. In this edition the main dictionary has not been revised but a supplement containing 1,000 new terms has been added on pages 263–318. Various changes including some omissions have been made in the "reference guide" section. The reduction in length by approximately 250 pages has been accomplished mainly by leaving out Civil Aeronautics Administration material readily available elsewhere.

FOGG, ROBERT STEVENS AND OTHERS

Seaplane flying and operations by Robert S. Fogg, William D Strohmeier and Daniel J Brimm, Jr New York Pitman Publishing Corporation 1949 218 p illus 24 cm. (Pitman books on private and business flying, Alexander Klemin advisory editor) $3 75 2487

Contents: Forword, by Admiral Richard E. Byrd. Introduction. Section 1, *Fundamentals of water flying:* Types of water aircraft. Taxiing and sailing. Docking procedure. Take-offs. Elements of flight. Landing. Securing and handling. Cross-country flying and general technique. Section II, Design, construction, and maintenance: Engineering considerations. Preparation, installation, checking. Inspection, maintenance, and repair. Section III, Seaplane bases: *Types of seaplane bases. How to operate a successful seaplane base.* Appendix. Index.

Note: A practical book for the noncommercial flyer and also for persons interested in going into the business of operating seaplane bases. The special techniques of handling planes designed to land on and take off from water are discussed from the beginner's standpoint. The book is a thorough revision of Brimm's *Seaplane manoeuvring, maintaining, operating,* New York: Pitman, 1937

HUNSAKER, JEROME CLARKE

Aeronautics at the mid-century New Haven Yale University Press 1952 116 p. illus. 22 cm. $3.00 2488

Contents: Fifty years of development. Air transportation. Social and political effects.

Note: A readable resumé of the past, present, and possible future of air transportation. The author traces the development of aircraft, and discusses various aspects of the present air transportation business, including fares, safety the human factor automatic control, airports, and private flying. The influence of the airplane on cities and on rural areas is touched on, and its effect on nations in peace and in war is elaborated at some length. The book is one of a series of volumes based on the Dwight Harrington Terry Foundation Lectures on Religion in the Light of Science and Philosophy given at Yale University. The author is Professor of Aeronautical Engineering in the Massachusetts Institute of Technology

PIPER, WILLIAM THOMAS

Private flying, today and tomorrow in collaboration with D J Duffin New York Pitman Publishing Corporation 1949 295 p. illus. 24 cm. (Pitman books on private and business flying, Alexander Klemin advisory editor) $4.50. 2489

Contents: Forword, by Leighton Collins. What is private flying? How private flying grew. The role of women in flying. What the personal plane can do. Your personal plane. Buying, renting, and the flying club. Operating costs and insurance. Learning to fly. Cross-country flying. Airports—the key to private flying. The future of private flying. Appendix: Organization of flying clubs. Index.

Note: Practically every aspect of present-day private flying is discussed in this book. The chief subtopics are named in the chapter titles quoted above. Also included are such things as a complete picture sequence showing the various steps in taking a small plane aloft and performing various standard maneuvers with it; a factual description with photographs of all of the light private planes and a few heavier ones being manufactured in the U.S.A. when the book was being written; a survey of the many uses of light planes with special emphasis on their use in agriculture; and a model constitution and set of by-laws for flying clubs. The author is president of the *Piper* Aircraft Corporation.

UNITED STATES. CIVIL AERONAUTICS ADMINISTRATION OFFICE OF AVIATION SAFETY

Flight instruction manual. Washington, D C. Government Printing Office, 1951 184 p. illus. 26 cm. (United States, Civil Aeronautics Administration. Technical manual no. 100) Flexible cloth, $1.50 2490

Contents: Part one, Basic flight information Load factors. Principles of safe flight The parachute, its care and use. Part two, Principles of safe flight: Preliminary instruction. The flight syllabus. Basic flying technique. Part three, Instruction: Elementary instruction. Intermediate instruction. Advanced instruction. Acrobatic instruction. Seaplane instruction. Multi-engine instruction. Appendix: The flight instructor and the student. Glossary of aeronautical terms.

Note: An official reference manual for flying instructors and students. It supersedes five Civil Aeronautics bulletins of 1940–1943 as follows: no. 1, 21, 26, 31 and 32. Each section of text covers some particular maneuver or phase of instruction for example, the section dealing with loops, after describing the execution of the loop, includes eleven additional paragraphs explaining various difficulties met in executing the loop and means of avoiding them.

VARNEY ALEX

The psychology of flight. New York D Van Nostrand Company Inc., 1950 269 p. 21 cm. $4.25 2491

Contents: Why pilots behave as they do. Adapting to the new environment. Why we get off the beam. The case of the absent minded pilot. Learning to relax. Learning to observe. Developing reflexes. Learning to co-ordinate. The building of confidence. The building of judgment. How a pilot can control his emotions. The need to win. The psychology of errors. When death strikes. The psychology of buck fever and checkitis. The psychology of airsickness. The psychology of instrument flying. The temperament of the pilot. The personality of the pilot. The key to power. Index.

Note. An informal book addressed to student pilots and experienced pilots alike. In it the author who has had a long and varied experience as a pilot and as head of a flying school, skillfully discusses the attitude of men toward airplanes and flight and shows not only what causes difficulties in learning to fly but also what leads experienced pilots into accidents. The book is not a scholarly one—in fact there is no documentation. Nevertheless, it belongs in

the pilot's personal library and in library collections used by student aviators.

AERODYNAMICS

ABBOTT, IRA HERBERT, AND ALBERT E. VON DOENHOFF

Theory of wing sections including a summary of airfoil data. New York McGraw-Hill Book Company Inc. 1949 693 p illus. 24 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker, consulting editor) $15 00 2492

Contents The significance of wing-section characteristics. Simple two-dimensional flows. Theory of wing sections of finite thickness. Theory of thin wing sections. The effects of viscosity Families of wing sections. Experimental characteristics of wing sections. High-lift devices. Effects of compressibility at subsonic speeds. References. Appendixes. Basic thickness forms. Mean lines. Airfoil ordinates. Aerodynamic characteristics of wing sections. Index.

Note: A reference book of substantial value to aeronautical engineers who are concerned with the design of airplanes or with aerodynamic research. The authors are associated with the National Advisory Committee for Aeronautics, and the book is based largely on research carried out by this committee. Pertinent results and theories reported in the literature have, however been incorporated. The first part of the book—which accounts for somewhat less than half of the total length—consists of summarized critical presentations of current aerodynamic theories and condensed results of experimental work. The appendixes in the latter half of the book consist of tabular and graphical data organized under the headings listed above.

BONNEY E ARTHUR

Engineering supersonic aerodynamics. New York McGraw Hill Book Company Inc., 1950 264 p. illus. 24 cm. $6.00 2493

Contents. Compression and expansion waves. One-dimensional flow—nozzles and diffusers. Two-dimensional characteristics. Airfoil characteristics. Bodies of revolution. Supersonic wind tunnels. Components design and performance. Index.

Note: An introduction to this specialized field of aerodynamics. Although mathematics is freely used in the exposition, the work is not mathematical treatment of the subject. Rather it is statement of the basic physical principles combined with illustrations of their application in the design of aircraft. It is suitable for upper-class engineering students and also for engineers out of college who have studied courses in standard subsonic aerodynamics.

DAILEY CHARLES LEE, AND F C WOOD

Computation curves for compressible fluid problems. New York John Wiley & Sons, Inc. 1949 33 p illus. 29 cm. Paper $3.00. 2494

Contents: Section I, Energy relations and heat addition functions: Point functions of local Mach number Heat addition in constant area channel. Section II, Plane shock and expansion relations: Plane shock relations. Prandtl-Meyer expansion. Section III, Cone flow relations—Taylor-Maccoll theory

Note: (2174*) A collection of twenty-six charts which depict graphically the behavior of air as it flows past bodies moving at high rates of speed and under varying conditions of pressure, density, and temperature. The material has been prepared for the use of aeronautical engineers concerned with the design of wind tunnel nozzles and diffusers, jet engine design and performance calculations, and with other problems involving compressible fluid flow. The manual is intended to supplement H. Liepmann and A. Puckett' *Introduction to aerodynamics of compressible fluid*, New York, 1947 which provides detailed discussion of the theoretical aspects of the subject.

DOMMASCH, DANIEL O AND OTHERS

Airplane aerodynamics, by Daniel O Dommasch, Sydney S Sherby and Thomas F Connolly New York Pitman Publishing Corporation, 1951 520 p illus. 25 cm. $6.50. 2495

Contents (abridged): The atmosphere. Fundamental dynamics and thermodynamics of air. Airfoil theory Wing theory Drag. The propeller Aircraft propulsion. The basic performance problem. Special performance problems. Maneuvers. Theory and design of control surfaces. Longitudinal stability and control. Lateral and directional stability and control. Seaplane problems. Appendixes: Characteristics of representative NACA airfoils. Properties of the NACA standard atmosphere. Index.

Note An unusual integration of aerodynamic theory practical problems in airplane design, and airplane characteristics and performance. It is the outgrowth of material prepared for course for experienced pilots, offered by the Test Pilot Training Division of the Naval Air Test Center In essence, it is presentation of the fundamental principles of airplane flight for men with extensive experience in flying planes. Greater attention is given to the broader aspects, but minor details, such as the effects of application of brakes during the landing run, also are analyzed.

FERRI, ANTONIO

Elements of aerodynamics of supersonic flows. New York The Macmillan Company 1949 434 p. illus. 24 cm. $10.00. 2496

Contents: General considerations. Theory of two-dimensional flow—potential flow—characteristics system—small disturbances. Theory of shock waves. Theory of two-dimensional flow—interaction and reflection of shock waves and expansion waves. Theory of two-dimensional flow—characteristic theory for rotational flow. Measurement of the physical quantities of supersonic flow Supersonic profiles. Two-dimensional effects. Supersonic diffusers. General considerations for three-dimensional phenomena. Aerodynamic phenomena for body of revolution, analyzed by using the theory of small disturbances. Phenomena for conical bodies—hodograph system. Characteristic system for three-dimensional phenomena. Pressure drag of supersonic wings. Lift and induced drag of supersonic wings. Appendix. Index.

Note: This book deals chiefly with the physical phenomena of gas flow that are of significance in the prediction of the aerodynamic behavior of planes, projectiles, missiles, wind tunnel elements, etc. when air (or other gases) passes over their surfaces at supersonic speeds. The physical phenomena, the mathematical computations, and the applications are covered from the viewpoint of mathematicians and engineers concerned with aeronautical research and design. Although introductory to the subject, the book is written at the graduate-professional level. The author is Chief of the Gas Dynamics Section of the Langley Aeronautical Laboratory

HOLLAND, RAY JR.

The physical nature of flight. New York W W Norton & Company, Inc. 1951 287 p. illus. 22 cm. $4.00. 2497

Contents (abridged) The atmosphere. Lift. Drag. Impact. Friction. The practical aspects of air flow. Pressures. The vortex. Flow separations cause trouble. The stall made harmless. Wing sections and streamlining. Why planes require long wings. The full fabric of lift. Propulsion. Stability Flight efficiency How fast? Looking ahead. Index.

Note: This book on airplane flight and the control of planes is outstanding for clear well-conceived elucidations of both general principles and details. The whole anatomy of the subject is carefully dissected and described. The meanings of such terms as "shock, "drag, and "downwash are explained in simple terms and analogies. It is suitable for lay readers, pilots, and even engineers who desire general rather than specialized introduction.

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY

Handbook of supersonic aerodynamics. Department of the Navy Bureau of Ordnance. Compiled and edited under Bureau of Ordnance contract NOrd 7386 by The Aerodynamics Handbook Staff of The Johns Hopkins University Applied Physics Laboratory Silver Spring Maryland. A Bureau of Ordnance

publication. Washington, D C. Government Printing Office, 1950–52 3 v illus. 27 cm. (Navord report 1488) Looseleaf Vol. 1 1950, $2.00 Vol. 2 1950, $1 50 Vol. 4 section 12 1952 $1.25 Other volumes and sections not yet published. 2498

Contents: Volume 1 Symbols and nomenclature. Fundamental equations and formulae. General atmospheric data. The mechanics and thermodynamics of steady one-dimensional gas flow Volume 2 Compressible flow tables and graphs. Volume 3 Two-dimensional airfoils. Three-dimensional airfoils. Solid and ducted bodies. Volume 4 Mutual interference phenomena. Static stability Dynamic stability Aeroelastic phenomena. Volume 5 Viscosity effects. Heat transfer. Properties of gases. Mechanics of rarefied gases. Volume 6 Ducts, nozzles and diffusers. Free jets. Wind tunnel design and instrumentation. Measurement techniques. Miscellaneous problems.

Note: When completed this reference work will consist of series of six volumes presenting basic information in the field of supersonic aerodynamics and bringing together data and theories pertaining especially to the design of supersonic vehicles. The volumes are being issued in loose-leaf form to permit the addition of supplementary material. Much of the information is presented as graphs and tables. References and indexes appear at the ends of the volumes already published.

KUETHE, ARNOLD MARTIN, AND J D SCHETZER

Foundations of aerodynamics. New York John Wiley & Sons, Inc. 1950 374 p 23 cm. $5 75 2499

Contents: The fluid medium. Kinematics of fluid field. Dynamics of fluid field. The flow about body The thin airfoil. Finite wing. Introduction to compressible fluids. The energy relations. Some fundamental aspects of isentropic flow Waves. Airfoils in compressible flow. Introduction to the dynamics of viscous fluids. Laminar flow in tubes and boundary layers. Turbulence. Turbulent flow in tubes and boundary layers. Transition from laminar to turbulent flow. Some aspects of viscous compressible flows. Aerodynamic characteristics of wings. Appendix. Problems. Author index. Subject index.

Note: An engineering college textbook in which the fundamental theory and concepts of aerodynamics are compactly surveyed. As the chapter titles indicate, perfect, viscous, and compressible fluids are all covered. The treatment assumes no previous acquaintance with aerodynamic concepts or terminology but the reader will need sound knowledge of calculus. The authors are members of the Department of Aeronautical Engineering of the University of Michigan

MILES EDWARD ROY CECIL

Supersonic aerodynamics, a theoretical introduction. New York McGraw-Hill Book Company Inc. 1950. 255 p illus. 23 cm. $4 50 2500

Contents: Fundamental theory Divergence and circulation. The potential equation. Characteristics in the plane. Linear theory of plane flow. The linear potential equation in three dimensions. Shock waves. Cones in supersonic flow. The method of characteristics for axially symmetric supersonic flow Potential flow in the hodograph plane Comparisons of subsonic and shock flow in two dimensions.

Note: In this work the current knowledge of aerodynamic laws and behavior at supersonic speeds is presented for advanced students of aeronautical engineering and for engineering school graduates already employed in the field. The emphasis is on mathematical methods in solving the problems involved, and good part of the text is concerned with the solutions of non-linear partial differential equations. Both computational and graphical methods of solution are considered. A knowledge of basic fluid dynamics is essential to understanding the text.

PERKINS, COURTLAND D AND ROBERT E HAGE

Airplane performance, stability and control. New York John Wiley & Sons, Inc., 1949 493 p. illus. 24 cm. $7 00. 2501

Contents: Part 1, Airplane performance: Introduction. Drag estimation. Propulsion. Airplane performance. Part 2, Airplane stability and control: Static longitudinal stability and control stick-fixed. Static longitudinal stability and control stick free. Maneuvering flight. Directional stability and control. Dihedral effect and lateral control. Longitudinal dynamics. Lateral dynamics. Appendix. Index.

Note: A sound presentation of aerodynamics as applied to airplane design in the subsonic range. It is addressed both to aeronautical engineering students enrolled in college courses and to graduate engineers already engaged in airplane design. It was developed over period of years while the authors were associated with the Air Force Institute of Technology the Boeing Airplane Company and Princeton University

POPE, ALAN

Aerodynamics of supersonic flight, an introduction. New York Pitman Publishing Corporation 1950 184 p illus. 24 cm. (Pitman aeronautical publications aeronautical engineering series) $4.00 2502

Contents: Fundamental relations. Flow in duct. Two-dimensional flow The oblique shock. Approximate theories. Supersonic wind tunnels. Three-dimensional flow. Appendix: Standard atmosphere. Index. Answers to problems.

Note: A brief survey of current theory and experimental methods. According to the author it is designed for use in one-semester college courses offered to students who wish to test their own interest in supersonic aerodynamics and thus determine whether to pursue the subject further. Previous college courses in calculus and elementary dynamics are assumed. The author's style is clear; the book is well organized and very generously illustrated.

POPE ALAN

Basic wing and airfoil theory New York McGraw-Hill Book Company Inc., 1951 294 p. illus. 24 cm. $5 75 2503

Contents: Vector analysis. Complex variables and Fourier series. The stream function. Other flow functions. The Joukowski transformation. Airfoil construction and pressure distribution. Thin airfoil theory Thick-airfoil theories. The finite wing. The monoplane wing. The field about the wing. Spanwise load distribution for arbitrary wings. Miscellaneous applications of perfect fluid theory Appendixes. Index.

Note: A textbook designed for use in engineering college courses offered to advanced undergraduate students. The treatment is intermediate in level between the frankly introductory texts and the graduate-level treatises. The author is member of the faculty of the Daniel Guggenheim School of Aeronautics of the Georgia Institute of Technology

SCANLAN ROBERT H. AND ROBERT ROSENBAUM

Introduction to the study of aircraft vibration and flutter New York The Macmillan Company 1951 428 p illus. 24 cm. $10 00 2504

Contents (abridged): Basic mathematical techniques. The Lagrangean equations of motion and vibration theory The linear single-degree-of-freedom system. The two-degree-of-freedom system. Self-excited systems. Uncoupled beam vibration. Two-dimensional flutter theory Three-dimensional flutter theory Empennage vibration and flutter analysis. Normal (coupled) modes of vibration. Solution of the flutter stability determinant. Wing torsional divergence, aileron reversal and effectiveness. Instrumentation and testing. Bibliography Appendixes General equation governing subsonic and supersonic flows. Subsonic incompressible theory of the forces on an oscillating airfoil in two dimensions. Oscillating air forces in subsonic compressible flow Oscillating air forces in supersonic flow Tables of subsonic incompressible aerodynamic coefficients. Index.

Note: An introduction to specialized though highly important aspect of aeronautical engineering. It deals mainly with classical theory and problems. However there is chapter on sweptback wings and some discussion in the appendixes of analysis of vibration and flutter under conditions of compressible flow The mathematics employed includes matrix algebra. The book is suited to upperclass and graduate engineering students and to professional engineers in need of an introduction to this special field. The bibliography runs to twenty-two pages.

AIRCRAFT CONSTRUCTION

NEVILLE, LESLIE E

Aircraft designers data book. New York McGraw Hill Book Company Inc 1950 534 p. illus. 29 cm. $12 50 2505

Contents: General design characteristics. Wing and auxiliary surface design. Empennage design. Fuselage body and hull design. Landing gear design. Control systems. Fuel and lubrication systems. Power plant installation. Miscellaneous design details. Rotating wing aircraft. Turbine engines. Index.

Note. A valuable reference book for both engineers and draftsmen employed in the design of airplanes. It contains many hundreds of drawings, together with small number of photographs, of the mechanical details of the structures and mechanisms of [illegible] of modern airplanes. Compact discussions of structures are also included. Condensed *specifications of United States military*, personal, and transport aircraft and of leading Canadian, British and French planes are tabulated in the appendix. Most of the material has been compiled from *Aviation* and *Wings*.

NORTHROP AERONAUTICAL INSTITUTE. TECHNICAL DEVELOPMENT STAFF

Aircraft maintenance and repair by the Technical Development Staff of Northrop Aeronautical Institute. Charles Edward Chapel, chief editor New York McGraw Hill Book Company Inc. 1949 444 p illus. 29 cm. $7 00 2506

Contents Fundamentals of aircraft hydraulics. Flow control valves. Pressure control valves. Hydraulic systems. Hydraulic brake actuating systems. Landing gear. Heat treating and inspection of metals. Aircraft gas welding equipment. Gas welding technique for ferrous metal. How to weld aluminum alloy. Aircraft construction and repair by welding. Aircraft sheet metal tools, machines, and methods. Aircraft layout work. Aircraft riveting. Recommended riveting repairs for aluminum alloy structures. Aircraft woodworking tools and machines. Glue, screws, and nails for aircraft woodwork. Construction and repair of wooden aircraft. Fabric covering. Dope and its application. Aircraft wire and cable work. Assembly and rigging. Weight, balance, and loading. Index

Note (3160[a] 3191) The third volume published in useful, practical series for student aircraft mechanics. The topics named in the chapter titles are discussed clearly and thoroughly and the discussion is supplemented by generous number of well produced illustrations. The book is suitable for use both as text in organized class instruction and as home study manual. Like the others in the series, it is designed for mechanics and other practical workers rather than aeronautical engineers.

PERRY DAVID J

Aircraft structures. New York McGraw Hill Book Company Inc., 1950 566 p. 24 cm. $7.00 2507

Contents (abridged) Equilibrium of forces. Inertia forces and load factors. Shear and bending moment diagrams. Beams with unsymmetrical cross sections. Analyses of typical members of semi-monocoque structures. External loads on the airplane. Mechanical properties of aircraft materials. Joints and fittings. Design of members in tension, bending, or torsion. Design of compression members. Design of webs in shear. Special methods of analysis. Appendix. Index.

Note A textbook written primarily for use in undergraduate work in engineering colleges. The author who is Head of the Department of Aeronautical Engineering of the Pennsylvania State College, has emphasized basic structural theory and methods of analysis. Little material has been included on the design of specific airplanes or the properties of specific materials. The chapters are supplemented by good lists of related literature

SHANLEY FRANCIS REYNOLDS

Weight-strength analysis of aircraft structures. New York McGraw Hill Book Company, Inc., 1952 394 p. illus. 24 cm. (The Rand series) $8.50 2508

Contents Part I, Principles of optimum structural design. Methods of analysis. Principles of structural design for minimum weight. General instability of stiffened shells in pure bending. Minimum weight of stiffened cylindrical shells in pure bending. Effect of torsional-stiffness requirements on wing structural weight. Part II, *Structural-weight equations*: General weight-analysis methods. Weight analysis of the sheet-stringer-rib type of wing structure. Effective depth of airfoil sections. Evaluation of integration factors. Inertia and shear reduction factors. Wing ribs and secondary structure. Nonoptimum structural weight. Weight analysis of the thick plate type of wing structure. Weight analysis of thin-wing structures. Weight analysis of fuselage and shell structures. Part III, Material properties and behavior: *Analysis of stress-strain-time relations*. Stress-strain-time properties of some aircraft materials, by L. R. Jackson and others. Inelastic-column theory. Principles of creep buckling. Effect of creep on column deflection, by T P Higgins, Jr. Index.

Note An important treatise for aircraft designers and stress analysts. It presents methods of analyzing and predicting the structural weight of aircraft and missiles. Part discusses methods by which the minimum weight can be determined for any material and conditions of loading. These principles of design for minimum weight are utilized in deriving weight equations for wing and fuselage structures, the subject matter of Part II. A number of reports prepared in the course of investigations of new materials and extreme operating conditions are included in Part III. These reports demonstrate engineering methods by which the effects of temperature and time can be included in structural design and weight calculations. While not designed as textbook, certain of its parts have been used by the author as basis for graduate course in structures, and some problems used in that course have been included in Parts and II. Bibliographical references appear at the ends of most chapters.

TEICHMANN, FREDERICK KURT

Airplane design manual. Third edition. New York Pitman Publishing Corporation, 1950 382 p. illus. 24 cm. (Pitman aeronautical publications aeronautical engineering series) $7.50 2509

Contents Procedure in design. Types of airplanes. Airfoil selection. Preliminary weight estimate. The three-view. The balance diagram. The cockpit. Instruments and equipment. The passenger cabin. Heating and ventilating. Soundproofing. The power plant. Design of the wing. The landing gear. Tail surfaces. Control systems. The fuselage. Preliminary performance calculations. Elementary longitudinal stability calculations. Materials of construction. Appendix: Weight data. Miscellaneous design data on American airplanes. Airplane data. Materials design data. Index.

Note (4417) An introduction to practical design of airplanes and their component parts. Although moderate amount of mathematics is used in some of the chapters (for example the one dealing with wing design) many topics are discussed without the use of mathematics at all. The book is particularly suitable for such readers as production workers in airplane manufacturing plants and draftsmen, especially those who must gain their knowledge of the subject in home study. In this revised edition there is fair amount of new material including discussions of jet engines, recent research sealing arrangements, and new structural materials.

TITTERTON, GEORGE FRANCIS

Aircraft materials and processes. Fourth edition. New York Pitman Publishing Company 1951 359 p. 24 cm. $5.00 2510

Contents: Definitions. Testing aircraft materials. Steel and its alloys. Aircraft steels—properties and uses. Heat treatment of steel. Corrosion-resisting steels. Surface hardening. Shaping of metal. Wrought aluminum alloys. Aluminum-alloy castings. Magnesium alloys. Nickel alloys. Copper and its alloys. Metal joining processes. Corrosion and its prevention. Wood and glue. Fabric and dope. Plastics. Transparent materials. Rubber and synthetic rubber. Titanium and its alloys. Selection of materials. Appendices. Index.

Note. (3187[a]) A useful introductory manual. During World War it was widely used by men who were entering aircraft manufacturing from other professions. The discussions of materials and of processes such as heat treatment of corrosion-resisting steels include good deal of engineering data. The short chapter on titanium and its alloys is the major addition in the present edition. However, other chapters contain new sentences and new paragraphs and occasionally one or more new pages.

UNITED STATES CIVIL AERONAUTICS ADMINISTRATION

Personal aircraft inspection manual. Washington D C. Government Printing Office, 1950 81 p. illus. 26 cm. (United States. Civil Aeronautics Administration. C. A. A. technical manual no. 101) Flexible cloth $0.55 2511

Contents: Introduction. Part 1, Inspection fundamentals: The maintenance process. The inspection process. The forces of attrition. General inspection information. Part II, Inspection techniques: Fuselage—hull. Cabin—cockpit. Engine—nacelle. Landing gear. Wing—center section. Empennage. Propeller. Radio. Miscellaneous.

Note: This illustrated manual is designed for the use of student mechanics, pilots, and personal aircraft owners. It provides a general guide for the inspection of personal aircraft and is intended to be employed in connection with manufacturers' service handbooks wherever possible. The details of inspection are described in simple, nontechnical language, and photographic illustrations are provided in abundance to show the exact area under discussion and points to be checked.

UNITED STATES DEPARTMENT OF DEFENSE. MUNITIONS BOARD AIRCRAFT COMMITTEE

Wood aircraft inspection and fabrication. Department of the Air Force Air Matériel Command. Department of the Navy Bureau of Aeronautics. Department of Commerce Civil Aeronautics Administration. *Issued by* the Subcommittee on Air Force-Navy Civil Aircraft Design Criteria, Munitions Board Aircraft Committee. Washington, D C. Government Printing Office, 1951 335 p. illus. 26 cm. (Bulletin ANC—19) Paper $1.25 2512

Contents: Wood: Wood as an aircraft material. Identification of wood. General characteristics. Defects and blemishes. Requirements for wood in specific parts. Modified wood: Plywood, impregnated wood, compreg, impreg, heat-stabilized wood. Plywood. Glued laminated members. Resin-treated plywood and laminated wood (impreg and compreg). Heat-stabilized compressed wood (staypak). High-strength laminated paper plastic (papreg). Combination materials. Acetylated wood. Aircraft glues: Kinds. Properties of aircraft glues. Use characteristics of aircraft glues. Control of glue quality. Processing and fabrication: Inspecting and storage of lumber. Control of humidity in factories. Gluing. Bag-molded plywood and structures. Gluing and assembly operations. Temperature measurement. Machining, bending, and other woodworking operations. Finishing wood in aircraft. Propeller manufacture. Miscellaneous. List of specifications. Glossary. Index.

Note: An illustrated bulletin for use in the inspection and fabrication of wood parts of military and commercial aircraft. The technical material, covering information on wood, modified wood, glues, and processing, is based chiefly upon the results of investigations conducted by the Forest Products Laboratory of the United States Forest Service. The bulletin was prepared jointly by the Laboratory and by the ANC-19 Panel on Sandwich Construction for Aircraft of the Subcommittee on Air Force-Navy-Civil Aircraft Design Criteria. Strength data and other design criteria are beyond the scope of this bulletin; for such data the reader is referred to *Bulletin ANC-18a, Design of wood aircraft structures* (see below).

UNITED STATES FOREST PRODUCTS LABORATORY

Design of wood aircraft structures. Department of the Air Force *Air Matériel Command*. Department of the Navy Bureau of Aeronautics. Department of Commerce Civil Aeronautics Administration. Second edition. Issued by the Subcommittee on Air Force-Navy-Civil Aircraft Design Criteria of the Munitions Board Aircraft Committee. Washington, D C. Government Printing Office, 1951 234 p. illus. 26 cm. (United States. Department of Defense. Munitions Board. Aircraft Committee. Subcommittee on Air Force-Navy-Civil Aircraft Design Criteria. ANC—18 Bulletin) Paper $1 00. 2513

Contents: General: Purpose and use of bulletin. Nomenclature. Strength of wood and plywood elements: Physical characteristics and factors affecting the strength of wood. Basic strength and elastic properties of wood. Columns. Beams. Torsion. Basic strength and elastic properties of plywood. Plywood structural elements. Flat rectangular plywood panels. Curved plywood panels. Joints. Methods of structural analysis: General. Wings. Fixed tail surfaces. Movable control surfaces. Fuselages. Hulls and floats. Detail structural design: General. Plywood covering. Beams. Ribs. Frames and bulkheads. Stiffeners. Glue joints. Mechanical joints. Miscellaneous design details. Examples of actual design details.

Note: A practical guide to the design of both military and commercial wooden aircraft. Information on the strength and elastic properties of structural elements constructed of wood and plywood is presented in Chapter 2, this information superseding that contained in the June, 1944 edition of ANC—18, *Design of wood aircraft structures*. Chapter 3 contains suggested methods of structural analysis for the design of various aircraft components. Although these methods are in many cases the same as those used for metal structures, special considerations are introduced which take into account the special properties of wood. The fourth chapter presents recommendations on the detail structural design of wood aircraft and contains some examples of how various manufacturers have treated the solution of specific detail design problems.

AIRCRAFT ENGINES

CASAMASSA JACK V editor

Jet aircraft power systems principles and maintenance. New York McGraw Hill Book Company Inc. 1950 338 p illus. 23 cm. $6.50 2514

Contents (abridged): History and design of jet machines: The aviation gas turbine engine (turbo jet). Gas turbine propeller combination (turbo prop). Athodyds—pulse and ram jets. Rockets. Theory and installation: Jet propulsion theory. Air inlets, cooling, and exhaust systems. Thrust augmentation methods. Materials for gas turbines. Gas turbine fuel systems. Lubrication systems. Ignition and starter systems. Servicing and operation: Production problems. Inspection, maintenance, and overhaul. Jet transports. Addenda: Powerful jet engines developed by Pratt & Whitney Aircraft. Cooling for "hot" pilots. Boeing designs for jet transports. Lockheed's proposals for jet transports. Jet fuel (proposed). Russian jet designs. Glossary. Appendix. Visual aids. Index.

Note. An introductory textbook designed for men who are preparing for employment as mechanics on jet aircraft engines. Descriptions of the types of such engines and of their component parts comprise about two thirds of the book. Only about one-third is devoted to inspection, maintenance, and overhaul operations. There are numerous special features of value to the beginner including numerous illustrations, study questions, references to other reading, and glossary of jet terms.

DURHAM FRANKLIN P

Aircraft jet powerplants. New York Prentice-Hall, Inc., 1951 326 p. illus. 22 cm. $6 65 2515

Contents: Introduction. Principles of thrust and the energy equation. Thermodynamic properties of air and gas. Turbojet engine processes. Turbojet engine performance. Turbopropeller engine processes and performance. Duct flow and the inlet diffuser. Air compressors. Combustion chambers or burners. Nozzle flow and the jet nozzle. Turbines. The ramjet engine. The rocket motor. Appendix. Index.

Note: A college textbook intended for upperclass students in engineering colleges. The main types of jet powerplants, such as the turbojet engine, turbopropeller engine, and the rocket, are described very briefly in the first chapter. After this introduction, the theory and the performance characteristics of jet engines and their component parts are covered. Algebra and calculus are both used in the mathematical computations, and the treatment assumes previous courses in thermodynamics and fluid mechanics.

PHOTOGRAPHY

ADAMS, ANSEL

Natural-light photography Basic photo 4 New York Morgan and Lester, 1950 118 p. illus. 24 cm. $3.00 2527

Contents (abridged) Qualities of natural light. Film response and filters. The polarizers. Visualization. Landscape. Seascape. Still and moving water. Snow and ice. Foliage Desert photography Clouds. The moon and moonlight. Naturalistic details. The miniature camera out of doors. Portraiture. Synchro-sunlight. Architecture and industry Objects of art. Index.

—— The print contact printing and enlarging Basic photo 3 New York Morgan and Lester 1950. 120 p. illus. 24 cm. $3.00 2528

Contents (abridged) The expressive print. Photographic papers. Properties of photographic papers. The darkroom. Processing the print. Detailed description of making print. Detailed description of making an enlargement. Problems of control. Detailed description of toning. Etching and spotting of prints. Making prints for reproduction. Mass production of prints. Photo murals, overmantels, screens. Framing. Index.

Note: (2209*) Two books in 6 book series written by this author. In the series the author presents wide range of information on principles and techniques with the avowed purpose of helping his readers develop personal approach to photography The material goes beyond the needs of the average amateur photographer but is well suited to meet the needs of both amateurs and professionals who wish to do work with distinct individual quality. Included are long discussions of such common problems as the photography of moonlight and also of specialized techniques such as the use of polarizers.

ANTHONY ANNE J

Negative and print retouching for amateur and professional. Illustrations by the author New York Greenberg 1950 138 p. illus. 27 cm. $5 00 2529

Contents Part 1, Negative retouching: "Look pleasant, please. The tools of the trade. The purpose and use of the retouching tools. The negative. The technique of pencil retouching. Dye retouching. Etching. Summary of the fundamentals. Corrective retouching. Correcting mechanical and processing errors. Now it up to you. Part II, Print retouching. Photographic papers. General print retouching—basic equipment. Retouching the glossy print. Retouching the semi-matte print. Retouching the matte print. Retouching the warm-tone and toned print.

Note: A practical guide to the art of correcting, improving, or altering photograph by working on the negative or print. Necessary materials and tools are listed, and the detailed descriptions of each process are supplemented with numerous illustrations and before-and-after photographs. The material is primarily of interest to the professional photographer, but is sufficiently simplified to meet the needs of the amateur.

CAMERON JAMES ROSS

Motion picture projection and sound pictures. 12th edition. Coral Gables Florida Cameron Publishing Company 1952 869 p. illus. 21 cm. $12 50 2530

Contents (abridged) Early attempts at projection. Working principle of projectors. Special purpose projectors. Motion picture electricity Light and lenses. Resistance in arc circuits. Open alignment check systems Electronic-control arc lamp. Sound. Amplifier systems. Speaker systems. Picture projection. Simplex sound equipment. RCA reproducing equipment. Motiograph AA projector Ampro imperial projector Studio projection. Stereoscopic pictures. Theater television.

Note: (4446) A text addressed to operators of motion picture projection equipment and to men studying for this occupation. As the chapter titles show part of the book is devoted to background information on electricity optics, etc., and part of it to very specific information about particular makes of projectors. The book is not well organized but is, nevertheless, widely used because of the specialized information included.

CAMERON, JAMES ROSS

Sound motion pictures recording and reproducing With chapters on motion picture studio and film laboratory practice. Seventh edition. Coral Gables, Florida Cameron Publishing Company, 1950 879 p. illus. 21 cm. $12 50 2531

Contents (abridged) Historical—[illegible] and motion—sound transmission—elementary talking machines—recording and reproducing sound. Light and lenses. Sound. Electronic emission. Studio practice. Editing. Rerecording. RCA recording system. Magnetic tape recorders. Disc recordings. Microphone technique. The motion picture camera. Composite photographic process. History of animated cartoons. Motion picture laboratory. Film processing. Film production for television. Production with Mazda lamps. Stereophonic reproduction. R.C.A. Fantasound. Vitasound. Filmosonic projector

Note: (4448) A widely used handbook of background and practical information for men concerned with the recording, editing, and projection of sound motion pictures. A good deal of historical information is included along with the practical. In the chapters devoted to specific sound systems or projectors the information given is addressed particularly to operators of the machines. Not outstanding for style or organization, the book is nevertheless useful because of the wide range of specialized information in it.

CHAMBERLAIN KATHERINE

An introduction to the science of photography New York The Macmillan Company 1951 292 p. illus. 24 cm. $6.50. 2532

Contents. How photography began. Making print. Films and their processing. Cameras. Factors that influence the critical definition of the photographic image. Exposure and exposure meters. The graphs of photography Projection printing. The reflection and refraction of light. The formation of images by pinholes and lenses. More photographic optics. The rendering of color in monochrome. Introductory considerations regarding color photography The additive processes of color photography Color transparencies by subtractive processes. Color prints. Appendix. Index.

Note: An elementary text designed to provide the amateur photographer with an understanding of what takes place during the various operations leading to the production of photograph. Much practical information is given regarding the selection of cameras, the techniques of contact and projection printing, the use of exposure meters, etc.; but emphasis is placed on the theory underlying photographic optics, formation of images, and making of negatives and prints. The fundamentals of color mixing and the different color processes are discussed at some length.

FEININGER ANDREAS

Advanced photography methods and conclusions. New York Prentice-Hall, Inc., 1952 244 p. illus. 29 cm. $7.50 2533

Contents: Part 1 Thoughts about photography Part 2, Experimentation. Part 3, Observation. Part 4, Imagination.

Note: An eminent American professional photographer has combined technical information with esthetic theorizing in this book, written for both amateur and professional photographers. Included is chapter on building photographic equipment for special needs not satisfied by commercially available apparatus. His discussions of equipment are specific. His discussions of the artistic elements of

photography are less concrete but are none the less valuable. The book is illustrated with variety of outstanding photographs of various types.

FEININGER, ANDREAS

Feininger on photography Chicago Ziff Davis Publishing Company, 1949 409 p. illus. 29 cm. $15.00. 2534

Contents: Part I. The technique of making photograph. The equipment of photographer. The materials of photographer. The darkroom. The functions of the camera. The processing of negatives and prints. Learning from mistakes. Part II. The art of making photograph: Contrasts and how to control them. Color and how to control it. Controlling space and perspective. Light and lighting. Motion. Planning and directing the picture story Composition and the importance of the "background." Conclusions and the "photographic" techniques.

Note: An earlier and somewhat more technical book than the author's *Advanced photography* described above. It contains very specific advice on such matters as buying and testing lenses, developing of negatives, and the control of light and shade. Though not reference book, fair amount of reference material is included. Use for reference is hampered, however, by the lack of an index. The book is of interest to advanced amateurs and to beginning professional photographers. Originally published by the Ziff-Davis Publishing Company it is now available from Crown Publishers.

GIBSON, H. LOU

The photography of patients including discussions of basic photographic and optical principles. Springfield, Ill. Charles C Thomas, 1952 118 p illus. (part col d) 22 cm. (American lecture series Ralph P Creer, editor Publication num. 95) $5.50 2535

Contents: Fundamentals. Equipment and space. Making close-ups with roll film cameras. Lens properties. Positioning and lighting. Films and filters. Printing methods. Paper selection, quality control and print quality Appendix A. Index.

Note: A short, practical manual on the basic knowledge and techniques of photography that are useful in the production of clear photographs made in connection with medical research and practice. The author is member of the Medical Division of the Eastman Kodak Company

KINGSLAKE, RUDOLF

Lenses in photography, the practical guide to optics for photographers. Garden City New York Published by the Case-Hoyt Corporation for Garden City Books 1951 246 p. illus. 22 cm. $2 95 2536

Contents: Perspective. Light rays and lens aberrations. Light waves and how they behave. Definition and resolving power Depth of field. The brightness of images. Types of photographic objectives. Lens attachments. Enlarging and projection systems. Stereoscopic photography Shutters. Camera view finders and range finders. Bibliography Index.

Note: The principles and performance of camera lenses and related optical devices are discussed in this book from the viewpoint of the amateur photographer who wants to understand lenses in order to use his equipment intelligently It is not simple book of directions instead, the author discusses the main characteristics of lenses, provides diagrams of the successful types, and shows why they work as they do. Also included are specific instructions on allied matters such as manipulating enlarger systems so as to correct defects in negatives. The author is Director of Optical Design with the Eastman Kodak Company

LESTER, HENRY M editor

Photo-lab-index the cumulative formulary of standard recommended photographic procedures. John S. Carroll, associate editor Twelfth edition. New York Morgan & Lester 1952 Two vol. Loose-leaf illus. 22 cm. $17 95 2537

Contents: Introduction and index. Ansco. Ilford. Gevaert. Defender. Du Pont. Eastman Kodak. Haloid. Film data. Filter data. Illumination. Photo papers. Miscellany—weights, measures, conversions. Photographic chemicals. Cine data. Darkroom. Color data. Photographic optics. Defects in negatives and prints. Transparencies and slides. Copying. Photomechanical processes. Bibliography Photo words. Television.

Note: (2215) A standard manual of useful information of technical data on photographic procedures, processing, and materials, *intended for reference use in photographic workshops.* The information included covers wide range. Part of it as in the section on weights and measures is general. A substantial portion applies particularly to the products of individual manufacturers. The work is published in loose-leaf binders and is kept up to date by quarterly supplements available by separate subscription of $3 00 per year. Since the work is revised page by page and section by section as new products are introduced and new data become available, the present edition contains good deal of text that is the same as in the eleventh edition, because there has been no need for revision. However, the necessary changes have been made and continue to be made as new quarterly supplements are published.

LURAY, HOWARD

"Strobe"—the lively light. With a foreword by Dr Harold E. Edgerton. San Francisco Camera Craft Publishing Company, 1949 128 p. illus. 24 cm. $4.00 2538

Contents (abridged) Basic electronics for photographers. Choosing speedlight. Exposure and development—black and white. Filters, exposure and development—color. Application to specific problems. Glossary Electronic symbols. Bibliography

Note: A brief practical manual on the use of high-speed gaseous discharge lamps in making photographs by flashlight. It was written for professional photographers hence the preliminary chapters are devoted to an outline of the fundamental electronic principles. About three-fourths of the space is occupied by discussions of photographic techniques in which these high speed lamps are advantageous. The illustrations include some remarkable examples of high-speed photography

MCCOMBS, KENNETH MONROE

Commercial photography Chicago American Technical Society 1951 363 p illus. 22 cm. $5 00 2539

Contents: Commercial photography as career. The first requirement—a camera. Technique of camera operation. Professional photographic films. The photographer's darkroom. Negative processing. Photographic printing. Print finishing procedures. Outdoor photography Night photography Composition in professional photography Models in photography Studio portraiture. Portraiture of special subjects. Third dimensional portrait lighting. Commercial, fashion, and news photography Illustrative photography Color photography Legal aspects of photography How to sell picture. New improvements in commercial photography Your future in professional photography Index.

Note: A very practical introduction. It is slanted particularly for students who are studying commercial photography in trade schools, but it is suitable also for those learning this business by themselves. Throughout the book the instructions are compact, specific, and often given in step-by-step style. The author is successful commercial photographer who is head of the photography department of the Los Angeles Trade-Technical Junior College.

MORGAN WILLARD DETERING AND HENRY M LESTER, editors

The new Leica manual a manual for the amateur and the professional covering the field of Leica camera photography Twelfth edition. By Willard D Morgan Henry M. Lester and 20 contributors. New York Morgan & Lester Publishers, 1951 427 p illus. (part col d) 23 cm. $5.00 2540

Contents: The Leica camera and equipment, by W D. Morgan. Leica lenses and optics, by J. S. Carroll. The 35mm film—selection, exposure, and development, by A. Wellman. Color filters and their uses, by H. M. Lester. Flash photography by H. M. Lester. Electronic flash, by H E. Edgerton. Darkroom, equipment and enlarging procedures, by W D. Morgan. Enlarging papers and printing, by A. Adams. Copying and close-up photography by W D. Morgan. Microphotography with the Leica, by R. Newhall. Color photography by H. M. Lester. The Leica in photo-journalism, by A. Rothstein. The picture story in industrial and public relations, by W Vandivert. My way with the Leica, by A. Eisenstaedt. Child

particulars with the Leica, by J Rieling. Lantern slides for projection, by W D. Morgan. Visual communication of ideas, by R. de Keller Pictures by available light, by J Deschin. Traveling with Leica, by J Bryan. Music and the Leica, by A. Siegel. Philatelic photography with the Leica, by R. D Kershner. Underwater photography with the Leica, by P Rackpole. Medical photography, by W M. Hall. Photomicrography and macrophotography at variable magnification, by R. O. Keller. Presenting the print—spotting, trimming, mounting & display by K. Cramer Index.

Note: (2311) Primarily guide for both amateur and professional users of Leica cameras, this manual has proved also to be useful to miniature camera users in general regardless of make of equipment. In the present edition the contents are new Many new names are represented among the contributors and even the chapters written by contributors to former editions are new treatments.

NEBLETTE CARROLL BERNARD

Photography its materials and processes. Fifth edition. New York D Van Nostrand Company 1952 500 p. illus. 26 cm. $10.00. 2541

Contents (abridged) Light sources for photography Photographic optics. Photographic objectives. Photographic light filters. Photographic shutters. Fundamentals of photochemistry The photographic emulsion. Color sensitizing of photographic emulsions. The manufacture and physical properties of negative materials. The silver halide grain, the mechanism of exposure, and the latent image. Photographic exposure effects The theory of development. Photographic developers. Fixing and washing. Diffusion-transfer reversal processes. Photographic sensitometry Photographic tone reproduction. Reproduction of color in monochrome. Structure of the image. Negative materials. Photographic exposure and exposure meters. Negative processing. Improvement of the negative. Printing processes. Principles of three-color photography Three-color separation negatives. Subtractive printing processes. Screen and lenticular processes. Multilayer processes. Accuracy of color reproduction. Subject index. Author index.

Note. (4493) A standard text and reference book on the technical phases of photography This edition has been very substantially revised and rewritten. The emphasis has been shifted further towards materials and processes, and writings of fourteen specialists in addition to the author have been included The treatment of most topics is concise but informative. Literature references are included for most topics. The book is addressed to scientists, including but not limited to those who are preparing for research in photography and allied fields such as photolithography Little space is devoted to the everyday practice of photography however it contains much information that will be useful to those commercial photographers and serious amateurs he want to know more about the scientific and technical bases of their craft.

NEBLETTE CARROLL BERNARD AND H. N TODD

Elementary photographic sensitometry Rochester N Y Rochester Institute of Technology 1950 100 p. illus. 24 cm. $3.00 2542

Contents. What is sensitometry? Exposure of the material. Sensitometers. Development of the material. Threshold speeds. Density, opacity transmission The measurement of density The D log E curve. The developing factor or gamma. The time-gamma curve. Filter factors. The time log curve. H & D speeds. Weston speeds. Speeds based upon the exposure for density of 0.10 plus fog The American Standards Association speed Latitude and useful exposure scale. Effect of the developer and development on the D log E curve. The measurement of spectral sensitivity The sensitometry of papers. Tone reproduction Index

Note Although elementary in the sense that it is designed for persons beginning the study of the subject, this book is intended for those with interest in the scientific bases of photography In it are presented the scientific fundamentals, methods of measurement, and standards pertinent to the "quantitative measurement of the response of photographic materials to radiant energy It was developed for use in course given by the Department of Photographic Technology of the Rochester Institute of Technology and is suitable for use in such courses, and as an outline for persons studying the subject by themselves Some literature references are included, but the bibliography is not extensive.

NEWHALL BEAUMONT

The history of photography from 1839 to the present day New York The Museum of Modern Art, 1949 256 p. 27 cm. $5 00. 2543

Contents: The elusive image. The mirror with memory Prints from paper Portraits for the million. Pictorial effect. The faithful witness. The conquest of action. Photography as an art. The straight approach. Documentary Instant vision. Experiments in abstraction. For the printed page. In color. Sources of quotations. Selected bibliography Index.

Note: In 1937 the Museum of Modern Art, New York, organized an exhibition of photographs covering the period 1839 to 1937 The present volume is an expansion and elaboration of the catalogue hich was prepared for the exhibition. As might be expected, emphasis is placed on the artistic aspects of the subject, but attention is also given to the evolution of apparatus and techniques. Numerous reproductions of photographs taken with various types of equipment by famous photographers are included.

SIMMONS ALBERT DIXON

Photography for sportsmen. New York. D Van Nostrand Company Inc., 1951 172 p. illus. 24 cm. (A Van Nostrand sporting book, edited and designed by Eugene V Connett) $5.00 2544

Contents: Sceneries. Field equipment. Exploring the world of color. Through the low finder. Getting close to nature. Fins. Fur. Feathers. Seeing the unseen through slow motion. Riding. Jungle palaver. Stray shots for all.

Note A book on still and motion picture photography in the outdoors especially intended for sportsmen who take their cameras on hunting and fishing trips. The author has avoided technical language of photography where possible and has produced practical manual illustrated with many of his own striking and successful photographs.

SIPLEY LOUIS WALTON

A half century of color New York The Macmillan Company 1951 216 p. illus. (part col d) 26 cm. $8 00. 2545

Contents There is always background. The new century moves forward. Post-war innovations. Color grows during the depression. The camera and the press. The dye-coupler takes over. Color aiding and control systems. The half century closes.

Note In this lavishly illustrated book the main steps in the development of color photography and color reproduction in the graphic arts are described by the Director of the American Museum of Photography An expertly written text it is supplemented by many examples of color reproductions that represent high points in the development of these two arts. The illustrations author was assembled at considerable cost and effort and probably will never be duplicated again in book form. Much of the historical information appears to have been derived at first hand from men have careers have spanned the developments that are described. Although the book has considerable historical value, there are no literature references and no index.

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

Principles of color sensitometry A report of the Color Sensitometry Sub-committee H. E Bragg and others C. F J Overhage, editor New York Society of Motion Picture and Television Engineers 1950. 72 p. illus. 23 cm. Paper 2546

Contents Introduction. Sensitometric exposures. The processing of sensitometric tests. Quantitative evaluation of the image. Densitometer design principles. Transformations between integral and analytical densities. Interpretation of sensitometric results. Statistical aspects of color sensitometry References.

Note: "Much of color sensitometry is built on basic principles familiar to sensitometry of black-and-white materials. Some principles are new It is the object of this report to outline these principles and to describe the methods and instruments of color sensitometry in order to give the workers in the field of color motion picture photography comprehensive view of the present state of the science as it applies to them. The treatment is not detailed, and in some places rigor has given way for better understanding, but the coverage is intended to be comprehensive.

FOOD TECHNOLOGY

ADVANCES IN FOOD RESEARCH. Volume III. Edited by E. M. Mrak and George F. Stewart. New York Academic Press, Inc., 1951 518 p. illus. 24 cm. $9.50. 2547

Contents: Enzyme-catalyzed oxidative browning of fruit products, by M. A. Joslyn and J. D. Ponting. Physical and chemical aspects of the production, storage, and utility of dry milk products, by S. T. Coulter and others. Electromagnetic radiation fundamentals and their applications in food technology, by B. E. Proctor and S. A. Goldblith. The pharmacological evaluation of antioxidants, by A. J. Lehman and others. Salmonella infection as a food industry problem, by W. R. Hinshaw and E. McNeil. Reactions between sugars and nitrogenous compounds and their relationship to certain food problems, by J. P. Danehy and W. W. Pigman. Chemical and microbial studies on sliced cured bacon, by J. A. Ulrich and H. O. Halvorson. Certain aspects of internal corrosion in tin plate containers, by R. R. Hartwell. Rationale for studies of consumer food preferences, by R. L. D. Morse. Control of microorganisms causing spoilage in fruit and vegetable products, by M. von Schelhorn. Author index. Subject index.

Note: ([illegible]) As in the earlier volumes of the series, original monographic papers on topics of current interest to nutritionists, food chemists, etc., are presented. Essentially each paper is a literature survey of a specific topic, accompanied by an extensive bibliography of the pertinent literature. The author index includes the names of authors of cited material. The papers, written on a professional level, are intended for scientists and technologists in the food industries and in laboratories where food research is carried on.

AMERICAN CHEMICAL SOCIETY

Analytical methods in the food industry a collection of the papers presented at the Symposium on Analytical Methods in the Food Industry held by the Divisions of Analytical Chemistry and Agricultural and Food Chemistry of the American Chemical Society at the 115th national meeting in San Francisco, March 28 to April 1, 1949 Washington D C. American Chemical Society 1950. 73 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. three) Paper $1.50. 2548

Contents: Introduction, by J. R. Matchett. Measurement of color changes in foods, by E. J. Eastmond. Determination of amino acids, by M. S. Dunn. Quality control methods in frozen food production and distribution, by E. Campbell. Determination of water in some dehydrated foods, by R. Makower. Measurement of oxidative rancidity, by R. W. [illegible]. Measurement of filth in foods by microanalytical methods, by D. E. Tilden. Some aspects of control methods in the canned food industry by G. H. [illegible] and W. C. [illegible].

Note: A collection of original papers addressed to graduate chemists. All are accompanied by bibliographies. The bibliography included with Dunn's "Determination of amino acids" runs to 313 references.

AMERINE, MAYNARD ANDREW AND M. A. JOSLYN

Table wines, the technology of their production in California. Berkeley and Los Angeles University of California Press 1951 397 p. illus. 24 cm. $4.50. 2549

Contents: Introduction. Wines and grapes. Trends in the industry. The winery and its equipment. Design and construction. Equipment. Sanitation. Recommended procedures for making wines: From grapes to new wines. Clarifying and aging. Dry red wines. Dry pink wines. Dry white wines. Sweet table wines. Sparkling and carbonated wines. Preparing wines for market. Finishing operations. Testing and analyzing. Wine disorders. Winery by-products. Technological principles: Composition of grapes. Composition of table wines. Alcoholic fermentation. Propagation of fermentations. Appendices. Basic and reference tables. General references and citations. Index. List of illustrations. List of tables.

Note: An inclusive survey of good practices. It is addressed particularly to managers, chemists, and other technicians associated with the table wines industry in the state of California. However, most of the information presented is applicable also to wineries in other regions. Typical equipment is described and illustrated, but this phase of the subject is not covered comprehensively. The text is supplemented by 38 tables of reference data and a 17-page international bibliography.

AMERINE, MAYNARD ANDREW, AND LOUISE B WHEELER

A check list of books and pamphlets on grapes and wine and related subjects, 1938–1948. Berkeley and Los Angeles University of California Press, 1951 240 p. 24 cm. $5.00. 2550

Contents: Check list. Addendum. Subject index. Index of authors, editors, and translators not alphabetically listed. Index of country or state of publication. Bibliography.

Note: A comprehensive bibliography within the decade covered. It is international in scope and includes both books, pamphlets, and government publications but not articles in journals, except in instances where an article was also issued separately. The main arrangement is alphabetical by name of author.

ASSOCIATION OF FOOD INDUSTRY SANITARIANS INC.

Sanitation for the food-preservation industries. Prepared by the Association of Food Industry Sanitarians, Inc. in cooperation with the National Canners Association. Editorial committee Stephen M. Anderson and others. New York McGraw-Hill Book Company, Inc. 1952 284 p. illus. 24 cm. (McGraw-Hill series in food technology editor Frank K. Lawler) $5.30. 2551

Contents: Organization of the sanitation program. Inspection techniques. Housekeeping. Animal and bird pests. Insect pests. Sanitary significance of microorganisms. Water supply. Construction and maintenance of buildings and equipment. Cleaning. Chlorination. Employee facilities and industrial hygiene. Feeding and housing of employees. Waste treatment and disposal. Laboratory aids. Glossary of terms. Index.

Note: An officially sponsored manual which makes available practical information on efficient methods of establishing and maintaining optimum conditions of cleanliness in plants devoted to the canning, freezing, and dehydrating of foods. Organized in a modified outline form and written in simple language, it can be comprehended by anyone with a secondary school education. On the other hand, its scope is sufficiently broad to make it useful to management personnel as well as to workers. Literature references are included.

AVERY, ARTHUR C.

Fish processing handbook for the Philippines. Drawings by Pio Medel. Washington,

D C. Government Printing Office, 1950 149 p. illus. 23 cm. (United States. Department of the Interior Fish and Wildlife Service. Research report 26) Paper $0.50 2552

Contents: Introduction. Handling fresh fish. Freezing. Salting. Drying. Smoking. Miscellaneous preserving methods. Canning. Home canning of species that are seldom canned. Spoilage of fish and fish products. Reference data for fish processors. Bibliography

Note. This handbook for fish processing was prepared for use in the Philippines, where fish is second only to rice as the most important food. *It contains reliable information for both home and* commercial processors. It covers the handling of fresh fish, the various methods of preserving fish, and the spoilage of fish and fish products. It gives step-by-step descriptions of Philippine fish preserving methods, with suggestions on improving them and of methods used in other parts of the world which have been adapted for Philippine use by Philippine Fishery Program of the Fish and Wildlife Service. Much of the information in the handbook was taken from data collected by the former Philippine Bureau of Science. Included are tables of useful data for fish processors and drawings of common species of Philippine fish.

FRANDSEN JULIUS HERMAN, AND D HORACE NELSON

Ice creams and other frozen desserts. Amherst, Mass. J H. Frandsen 1950 318 p. illus. 24 cm. $5.25 2553

Contents: History development, and importance of the ice cream industry Food value of ice cream. Classification of ice creams, sherbets, and ices. Composition and properties. Ice cream ingredients. Stabilizers and emulsifiers. Flavoring and coloring materials. Calculation of ice cream mixes. Restandardizing and calculating some unusual mixes. Calculating cost of mixes, amount of materials per cent overrun, etc. Making and processing the mix. The freezing process. Packaging, hardening, and shipping. High fat and high serum solids ice cream. Ices and sherbets. Fancy molded ice creams, novelties, and specialties. List of formulas. Defects, scoring, and grading. Sanitation. Refrigeration. Some laboratory tests often used in ice cream plants. Sales outlets. Formulas for soda fountain use. Reference material. Index.

Note: A manual of the commercial manufacture of ice cream particularly as it is done in the U. S. A. Formulas are included for variety of flavors of standard ice creams and also for novelty types such as spumoni, fruit salad, sherbet, and water ice. Also there are formulas for syrups and toppings used in making the ice cream dishes and drinks that are sold at soda fountains. Soda fountain recipes are included because many manufacturers of ice cream maintain such retail outlets. The authors are members of the faculty of the University of Massachusetts.

HUGHES OSEE

Introductory foods. Revised edition. New York The Macmillan Company 1949 575 p illus. 22 cm. $4 50 2554

Contents: Introduction. Fruits and fruit preparation. Vegetables and vegetable preparation. Milk and milk products other than butter and ice cream. Eggs and egg cookery Meats and meat cookery Frosted foods. Carbohydrates and carbohydrate cookery Beverages. Fats and oils. Salads and salad dressings. Gelatin. Freezing and frozen desserts. Batters and doughs. Food preservation. Meal planning. Meal service. Appendices. Index.

Note. (4563) A standard textbook designed for use in introductory courses offered by college departments of home economics. The various classes of foods are described with emphasis on their nutritive values. Basic food preparation and preservation techniques are discussed. Much information that is generally useful in buying and preparing food is included. The first edition appeared in 1940. This edition has been much revised and sections such as that on food preservation have been considerably expanded.

HUNZIKER, OTTO FREDERICK

Condensed milk and milk powder Prepared for factory school and laboratory Seventh edition, completely revised. La Grange, Illinois O F Hunziker 1949 630 p. illus. 24 cm. $7.00 2555

Contents (abridged): Chemical composition and reaction of milk. Physical properties of milk. The milk condensary Thermodynamics of milk condensing. Description of the vacuum pan. Steam requirements for forewarming and condensing. Factory sanitation. Quality of milk supply and its control. Sweetened condensed milk Definition, intake and standardization. Condensing the milk. Sweetened condensed skim milk—condensed whey Packaging. Evaporated milk: Inspection, standardizing and forewarming. Irradiation, fortification, homogenization. Cooling, standardizing, canning. Sterility and heat stability Viscosity color, flavor mineral deposits. Plain, superheated, frozen condensed milk. Concentrated buttermilk, sour skim milk. Sterilized sweet milk and sweet cream. Composition and formula of concentrated milks. Concentrated milk defects. The dried milk industry: *Milk drying systems. Thermodynamic and engineering aspects.* Manufacture of dried whole milk. Manufacture of dried buttermilk. Manufacture of dried whey Manufacture of dried malted milk—dried ice cream—dehydrated sweetened condensed milk. Yield, composition, properties of dried milks. Keeping qualities of dried milks. Vitamins in milk and milk products. Manufacture of milk sugar of commerce. *Factory tests and analyses.* Index.

Note: (5007a) As in previous editions, this volume presents the latest available information on apparatus and processes that will be of interest to advanced students, research workers, and plant managers concerned with large-scale commercial dairy operations. Numerous illustrations of equipment are again included and the statistical data and official standards have been revised through 1948. The material is based on the author's own experience and on review of the literature of the subject, and in this revision more than 600 references to world literature are provided.

JACOBS, MORRIS BORIS

The chemical analysis of foods and food products. Second edition. New York D Van Nostrand Company Inc. 1951 902 p. illus. 23 cm. $9 00 2556

Contents: General methods. Physical chemical methods. Coloring matters in foods. Chemical preservatives in foods. Metals in foods. Chemical food poisoning. Milk and cream. Milk products. Oils and fats. Sugar foods and carbohydrates. Gums, cereals, starch, other polysaccharides, flour and bread. Jams, jellies, and fruits. Vegetable products. Spices, flavors, and condiments. Nonalcoholic beverages and allied products. Meat, meat products, fish, and eggs. Vitamins. Inorganic determinations. Flavor and quality measurement. Filth and decomposition in foods. Field tests. Appendix. Subject index.

Note. (4544) The new edition of this well known work, like the first, is designed for food chemists, food technologists, public-health workers, and others concerned with the purity composition, processing, and dietary value of food products. It contains precise descriptions of commercial food products and provides detailed procedures for their analysis. The general arrangement of the earlier edition has been retained, but the scope has been broadened to cover problems in toxicology. Chapters have been added on chemical food poisoning, flavor and quality measurement, and filth and decomposition in food; and the sections on coloring matter, milk products, and vitamins have been doubled in length.

JACOBS MORRIS BORIS editor

The chemistry and technology of food and food products. Second completely revised and augmented edition, prepared by a group of specialists under the editorship of Morris B Jacobs. New York Interscience Publishers, Inc. 1951 3 v 24 cm. Vol. I, $12.00 Vol. II, $15.00 Vol. III, $15.00. 2557

Contents Volume Part I, Fundamentals: Introduction, by M. B. Jacobs. Physical chemistry of foods, by M. B. Jacobs. The carbohydrates, by E. F. Degering. Lipids, by W. O. Lundberg. Proteins and amino acids of food products, by L. M. Thomas. Enzymes, by M. B. Jacobs. Vitamins, vitagens, and hormones, by H. R. Rosenberg. Mineral matters and other inorganic food adjuncts, by E. H. Carr. Coloring matters in foods, by C. F. Jablonski. Digestion and fate of foodstuffs, by A. E. Wilhelmi. Food spoilage and food poisoning, by H. O. Halvorson. Part II, Unit operations and processes, by K. M. Garst. Part III, Sanitary and quality control. Food supervision and grading, by W F Reindollar. Instruments in the food plant, by M. B. Jacobs. Food sanitation, by A. E. Abrahamson. Washing, detergency, sanitation, and plant housekeeping, by J L. Wilson. Insect and fungus control in food processing, by H. H. Shepard. Domestic rodent control, by H. H. Shepard. Abridged index to volume I. Volume II. Part IV Foods: Milk, cream, and dairy products, by M. B. Jacobs. Meat and meat products, by W M. Urbain. Fish, shellfish, and crustacea (part I) by M. E.

Stansby Poultry and eggs, by M. E. Pennington. Cereal grains, by W F Geddes. Edible fats and oils, by C. E. McMichael and A. E. Bailey Baking and bakery products, by W H. Cathcart. Vegetables and mushrooms, by F A. Lee. Fruits and nuts, by F A. Lee. Carbohydrates and sugar foods, by R. F Doggett. Confectionery and cocoa products, by M. Schoen. Coffee and tea, by W H. Ukers and S. C. Prescott. Flavors, spices, condiments, and essential oils—Part I, Flavors, spices, and condiments, by L. Worrell. Part II, Essential oils, by M. B. Jacobs. Abridged index to volume II. Volume III Part Preservation: The dehydration of foods, by E. M. Mrak and G. Mackinney Food preservation by temperature control, by M. E. Pennington and D. K. Tressler. Preservation of food in hermetically sealed containers, by O. B. Williams. Food preservation by use of microorganisms, by F W Fabian. Chemical preservatives, by M. B. Jacobs. Packaging, by C. W Browne. Part VI, Production: Technology of cereal grains, by W F Geddes. The production of bread and bakery products, by W H. Cathcart. Sugars and sirups, by G. P Meade. Confectionery and cocoa products, by M. Schoen. The manufacture of chewing gum, by M. B. Jacobs. Fruit juices, jams, jellies, and preserves, by A. M. Neubert and J. L. St. John. Milk and milk products, by P Corash. Meat and meat products, by W M. Urbain. Fish, shellfish and crustacea (part II) by M. E. Stansby Oils, fats, and related products, by C. E. McMichael and A. E. Bailey Enzymes in food processing, by M. B. Jacobs. Carbonated nonalcoholic beverages, by M. B. Jacobs. Alcoholic beverages, by P Valaer. Industrial waters, by F C. Nachod and E. Mendell. Cumulative index to volumes I-III.

Note: (4845) An encyclopedic work of interest not only to chemists and other technical specialists associated with the food processing industries, but also to specialists in nutrition, public health, etc. Each of the chapters is essentially monographic survey and is accompanied by extensive literature references. The chapters on instruments in food plants, edible fats and oils, chewing gum, and enzymes in food processing have been added in the present edition. The chapters carried over from the previous edition have been very extensively revised and in some cases are signed with the names of new contributors.

JARVIS NORMAN DONALD

Curing of fishery products. Washington, D C. Government Printing Office, 1950. 271 p. illus. 23 cm. (United States. Department of the Interior Fish and Wildlife Service. Research report 18) Paper $0 60. 2558

Contents: Importance of fish curing in the history of the United States. Statistical review of the fish curing industry Preservative action in fish curing. Air dried fishery products. Dehydration of fish. Principles of fish salting. Dry salting cod. Dry salt cod—foreign cures. Spoilage in dry salt cod and other cured fish. Miscellaneous dry salt fish. Dry salting fish in warm climates. Miscellaneous brine-packed fish. Herring salting. Salmon salting. Spiced and pickled fish. Caviar and other fish roe products Smoking fish. Herring smoking. Salmon smoking. Smoked haddock and other groundfish. Miscellaneous fish smoking. Delicatessen products. Literature cited. Index.

Note: This report covers the techniques of all methods of fish preservation except refrigeration and canning. In it are described the methods employed of curing certain types of fish in England, Scotland, and Norway in addition to current American methods. It is published as handbook and guide to persons and firms connected or concerned with the fish-curing industry Interest in the subject stems from the fact that curing does not require the equipment or capital needed for canning or freezing.

JENSEN LLOYD BRYAN

Meat and meat foods processing and preservation from meat plant to consumer New York The Ronald Press Company 1949 218 p. illus. 22 cm. $3 75 2559

Contents: The rise of applied science in the preservation of meat. Processing of fresh meats. Freezing of fresh meats and freezer storage. Curing of meats. Effects of bacterial action. Special microbiological problems. Home—curing and smoking procedures. Production of bacon. Preservation and curing of beef. Preparation and protection of table-ready meats (sausage) Processing and care of canned meats. Storage and handling of meats by retailers and consumers. Meat cookery and meat in the diet. Bacterial food poisoning. Appendix—Historical notes on the use of meat as food. Bibliography: Historical references. Technological references. Index.

Note: The many technical processes which are employed in preparing and preserving meat from the time the animals are slaughtered until the edible products reach the consumer's table are recounted in this book, which is suitable for use as textbook or reference book by such groups as home economics students, public health workers and persons in the retail food business. The bacteriological aspects are emphasized, but there is also much information on other aspects such as the role of meat in the diet. The author is Chief Bacteriologist for Swift and Co.

JOSLYN, MAYNARD ALEXANDER

Methods in food analysis applied to plant products. New York Academic Press Inc., 1950. 525 p. illus. 23 cm. $8.50 2560

Contents (abridged) Statistical analysis, errors, expression of results. Sampling. Moisture content and total solids. Ash content and ashing procedures. Extraction methods and separation processes. Densimetric methods. Refractometric methods. Polarimetry and saccharimetry Colorimetry and spectrophotometry Potentiometric and related methods. pH and buffer capacity Viscosimetric and other physical methods. Acidimetry Alcoholometry Carbohydrates. Pectins and pentosans. Tannins. Organic nitrogenous compounds. Index.

Note A work in which basic physical and chemical principles and techniques, rather than specific laboratory procedures, are discussed. Also the author has assumed that his readers will be concerned more with the estimation and control of the quality of food products than with the detection of adulteration. The book is addressed to upper-class and graduate college students who understand the principles and techniques of qualitative and quantitative analysis. It is written in the style of monograph with keyed references from the text to extensive bibliographies. For chemists already at work in the field, especially those concerned with manufacturing, it should prove useful survey of applicable techniques and guide to the literature.

MARKLEY KLARE STEPHEN, editor

Soybeans and soybean products. New York Interscience Publishers, Inc., 1951 1145 p. 2 v illus. 24 cm. (Fats and oils a series of monographs on the chemistry and technology of fats, oils, and related products, Editorial board A. E. Bailey and others) $11 00 per volume. 2561

Contents: Vol. Production History of soybean production, by W J. Morse. World soybean production and trade, by E. L. Burtis. Structure and composition Structure and genetic characteristics of the soybean, by L. F Williams. Chemical composition of soybean seed, by W J. Morse. Chemical composition of soybean oil, by R. F Dunbert. Chemical characteristics of soybean oil, by S. T Bauer Physical properties of soybean oil, by M. E. Jefferson. Proteins and other nitrogenous constituents, by S. J. Circle. Other constituents of the soybean, by R. F Dunbert. Nutritive factors in soybean products, by H. H. Mitchell. Processing: Grading and evaluation of soybeans and derived products, by E. Freyer Handling and storage of soybeans, by L. R. Holmes. Biological processes in stored soybeans, by M. Milner. Mechanical processing of soybeans, by L. F Langhurst. Vol. II. Solvent extraction processes, by L. F Langhurst. Utilization of soybean products: Production and utilization of lecithin, by J. Stanley Processing of edible soybean oil, by J W Bodman and others. Nutritional value of soybeans and soybean products, by H. J. Deuel, Jr. Edible soybean oil products, by H. C. Black and K. F Mattil Soybean oil by-products, by R. W Lehmann and M. D. Embree. Nonedible soybean oil products, by T F Bradley Soybean oil meal for livestock and poultry by J W Hayward. Soybean protein food products, by R. S. Burnett. Soybean protein industrial products, by R. S. Burnett. Other soybean products, by J. M. Smith and F O. Van Duyne. Author index, volume II. Subject index, volumes I-II.

Note: Each of the 25 monographs in this comprehensive work has been prepared by an expert, and is well documented with literature references. Although the levels of the monographs vary the work as whole is technical and is designed for professional workers in fields where knowledge of soybean processing or soybean products is essential.

MILLER, ALBERT RAUCH

Meat hygiene. Philadelphia Lea & Febiger 1951 420 p. illus. 24 cm. $7 50 2562

Contents: History Elements of meat hygiene. Ante-mortem inspection Post-mortem inspection. Trichinosis. Physical and chemical characteristics of meat and the principal organs. Facilities relating to sanitation in plant operation. Facilities for inspection. Materials added to meats. Preparation of meat and meat food products. Meat grading. Adulteration and misrepresentation. Deteriorative changes

in meat. Organized meat hygiene control. Appendix. Bibliography. Index.

Note: A college text and reference manual designed primarily for use by students of veterinary medicine and graduate veterinarians. It is useful also to public health officers and other persons who are concerned with the sanitary handling of meat. Although the inspection phase is emphasized, most of the processes involved in the slaughtering of animals and the processing of their meat are described in some detail, hence the book is also a description of meat packing as it is currently practiced in the United States of America. The author is Chief of the Federal Meat Inspection Service of the United States Department of Agriculture.

NEARING HELEN, AND SCOTT NEARING

The maple sugar book, being a plain practical account of the *art of sugaring* designed to promote an acquaintance with the *ancient* as well as the *modern* practise together with remarks on *pioneering* as a way of living in the twentieth century New York The John Day Company 1950 271 p. illus. 21 cm. $3 75 2563

Contents: Part I, Sugaring in the past: Sugar from trees. Indians, the first maple-sugar makers. The early settlers make syrup and sugar. Part II, Sugaring—its present practice: The sugar bush. Sugar tools and equipment. Maple sap and sap weather. Making maple syrup. Making maple sugar. Marketing maple products. Part III, A living from maple: Pioneers, [illegible] pioneers! The money in maple. A life as well as a living. Maple recipes. Notes. Bibliography. Index.

Note: An informal but nevertheless authentic monograph on syrup and sugar made from the sap of maple trees. It is based on both personal experience and library research and is carefully documented. The notes in the bibliography together occupy 16 pages. The descriptions of marketing practices and the data on prices refer particularly to the northeastern United States of America.

OWEN WILLIAM LUDWELL

The microbiology of sugars, syrups and molasses. A reference book for the raw sugar manufacturer or refiner and for all industries engaged in the manufacture storage or commercial utilization of sugars syrups and molasses. Published by Barr-Owen Research Enterprises. Minneapolis, Minn. Burgess Publishing Company 1949 275 p. illus. 22 cm. $5.00. 2564

Contents. Source of microorganisms in factory juices. The microbial flora of sugar cane and beet juices. Typical fermentations of cane and beet juices. Fermentation of diffusion juices from sugar beets. The appraisal of the microorganisms in cane juices and beet diffusion juices. The progressive decimation of microorganisms incident to the manufacturing process. The microbiology of syrups. The microbiology of raw sugars. The deterioration of blackstrap molasses in storage. Author index. Index.

Note. This publication brings together information from the voluminous literature on the microbiology of sugar and sugar products and provides for sugar technologists and other scientists interested in the subject a convenient source of references applicable to problems connected with fermentation in sugar manufacture and the deterioration of sugars or syrups and molasses. The last chapter, which covers the deterioration of blackstrap molasses in storage, deals with chemical rather than microbiological phenomena, but is included in the book because of the economic importance to the sugar industry of preventing this type of loss, for which microorganisms have sometimes been held responsible. The author is director of the William L. Owen Laboratories, Baton Rouge, and bacteriological consultant for a number of Louisiana industrial concerns, including sugar refineries.

PARKER, MILTON E. AND OTHERS

Elements of food engineering. By Milton E. Parker with the collaboration of Ellery H. Harvey and E S Stateler Volume one. New York Reinhold Publishing Corporation, 1952 386 p. illus. 24 cm. $8 75 2565

Contents: Engineering factors in food processing. Agricultural and nutritional aspects of food production. Foods and food processing. The food-processing industry. Refined food processing—wheat and corn flours—rice and oats milling—minor cereal flours—fats and oils—sugars, syrups, starches, and gums—food protein derivatives—spices, essential oils, condiments, and flavoring extracts—beverages and fermentation products—nuts.

Note. This is the first volume published of a projected three-volume treatise on the engineering aspects of present-day large-scale food processing. In this volume the treatment is largely descriptive. However the processes covered are described explicitly. The work is intended for study and reference use by college students who are preparing for technical positions in the food processing industries and by technical personnel already employed in these industries. The authors are all associated with the teaching of food engineering in the Illinois Institute of Technology.

PYLER ERNST JOHN

Baking science and technology by E. J Pyler In collaboration with the staff of the Siebel Institute of Technology In two volumes. Chicago Ill Siebel Publishing Company 1952 2 v illus. 24 cm. $15 00. 2566

Contents (abridged): Volume I. Part I, Basic science: The carbohydrates. Fats and oils. The proteins. The enzymes. The vitamins. Yeast, molds and bacteria. Part II, Materials of baking: Wheat flour. Miscellaneous flours. Sugars and syrups. Plastic baking fats. Milk and milk products. Eggs and egg products. Bibliography I. Volume II. Part III, Baking technology: Dough mixing. Fermentation. Dough make-up. The baking process. Rye bread production. Physical and chemical testing methods. Part IV Aspects of cake baking: Cake ingredients. Flavor. Cake baking technology. Part V Bakery equipment: Flour handling equipment. Dough handling equipment. Ovens equipment. Cooling, slicing and wrapping equipment. Bakery sanitation. Appendix. Bibliography II. Subject index.

Note. A comprehensive account of the basic principles and processes underlying the baking industry and of the chief ingredients used. It is based on Siebel's *Manual for bakers and millers*, 1924, but the material has been so thoroughly revised and amplified as to constitute a new work. Emphasis is placed on bread making, but other types of baking are also discussed from the point of view of the chemical reactions involved, the quality and properties of the ingredients, and the equipment and techniques employed. Numerous photographs of bakery equipment and an extensive bibliography are included.

STORCK, JOHN AND WALTER DORWIN TEAGUE

Flour for man's bread a history of milling. Illustrated by Harold Rydell. Minneapolis University of Minnesota Press, 1952 382 p. illus. 27 cm. $7.50 2567

Contents: The line we shall follow. Diet makes the man. The grinding of wild grains begins. Grain cultivation begins. Farming and milling tools appear—and bread. The grain empires. Milling becomes a business. Water turns the millstones. Man masters the winds for milling. Man's new power resources. Milling comes to America. Oliver Evans invents the automatic mill. Westward led America. Automatic milling and the purifier start a revolution in American milling. Rollers and gradual reduction advance the milling revolution. The automatic all-roller gradual-reduction mill completes the revolution. The business side of milling gains importance. The modern mill and its flour. The new era of organization and research. Looking forward. Vocabulary of milling terms. References and notes. Index.

Note. A well-documented, popular history of the development of flour milling. The main theme is the chain of improvements in the technical processes from the earliest hand-stone methods to the highly mechanized, efficient, and sanitary modern mill. In the early chapters, where the authors have leaned heavily on archaeological records of early civilizations, the account has a decided each[illegible]. In the later chapters there is more emphasis on major inventions and the contributions of prominent millers. Also, there are frequent mentions of the names of large milling companies in the United States of America. The book is an outgrowth of a [illegible] project, hence liberal use is made of illustrated matter including not only pictures but also flow charts and maps. The "References and notes" are arranged according to chapter and constitute a bibliography of source materials on flour milling.

TRESSLER, DONALD KITELEY, AND JAMES McW LEMON

Marine products of commerce, their acquisition, handling, biological aspects and the science and technology of their preparation and preservation. In collaboration with A. E. Alexander and others. Second edition revised and enlarged. New York Reinhold Publishing Corporation, 1951 782 p. illus. 24 cm. $18.00. 2568

Contents (abridged) The ocean, its potentialities and products. Salt from sea water. Magnesium, bromine and other products from sea water. The red algae of economic importance. The brown algae. The precious coral industry. Economic importance of the world's fisheries. American fishing gear and fishery methods. Fish and shellfish as food. Refrigeration and freezing of fish. The principles of fish salting. Canning of fish and fish products. Fish meal and oil. Fish liver oils. Fish glue and isinglass. Manufacture of leather from marine sources. The oyster industry of the world. The clam industry of the United States. The American shrimp industry. The lobster fishery. Marine turtles and terrapins. The whaling industry. Seal fisheries. Commercial sponges. Index.

Note: A cyclopedic reference book that is unique in its field. The first edition was published in 1923. The viewpoint and scope of the present edition are essentially the same as the first but the contents of the book are new. Under chapter titles, such as are given above, both economic and technical information are presented. The chapters are supplemented by bibliographies that include the periodical and patent literature.

VALAER, PETER

Wines of the world. New York Abelard Press, 1950 576 p. 22 cm. $6.50 2569

Contents (abridged) Grapes for the world's winemaking. Wine types. Sherry wine. Port wine. Madeira wine. Champagne and other sparkling wines. Vermouth. Blackberry and other berry wines. Raisin wine and raisins. Apple wine and apple juice. Honey wine. Wine production in the United States. California's wine areas. Winemaking in New York State. Wines of other lands. Acids and their significance in wines. Use of pure yeast cultures, sulfur dioxide, and temperature control in wineries. Cellar treatment of wines. Grape concentrates and other concentrates used for winemaking. Methods of analysis of wines. Selective bibliography of wine. Analyses of wine. Index.

Note: Although this is a general book on wines, there is considerable emphasis on the technology of winemaking. The inclusion of technical aspects is obvious from the titles of some of the chapters, but even in titles such as "Wines of other lands" there is some discussion of technical matters. The book is of interest to wine consumers and also to persons associated with the wine trade. The bibliography was compiled by the Wine Institute, and it includes both books and articles. In the final chapter detailed chemical analyses of a wide range of wines are presented. The author has been associated with the United States Bureau of Internal Revenue as a specialist in wines for many years.

VAN HOOK, ANDREW

Sugar its production, technology, and uses. New York The Ronald Press Company 1949 155 p. illus. 22 cm. (A volume of the Humanizing science series edited by Jaques Cattell) $3.00. 2570

Contents: Sugar and the sugars. Production—cane. Production—beet. Commercial and trade aspects. By-products: recent and anticipated developments. History. Index.

Note: This book brings together in readable form, with suitable illustrations, the essential facts about the growing, processing, and refining of sugar, the scientific basis of its technology its uses, both present and potential, and a brief history of sugar from ancient times to the present day. It is especially suited for those outside the sugar industry who want or need a well-rounded picture of the sugar industry and its background.

VON LOESECKE, HARRY WILLARD

Bananas chemistry physiology, technology Second revised edition. New York Interscience Publishers, Inc., 1950. 189 p. illus. (part col d) 22 cm. (Economic crops. A series of monographs on the chemistry, physiology and technology of food and food products, Z. I Kertesz, editor Vol. I) $5.00 2571

Contents: History and growth of the trade. Structure and development. Commercial storage and ripening methods. Chemical changes during ripening. Transportation of bananas. Banana products. Nutritive value in health and disease. Diseases and insect pests of bananas. World banana production and trade. Author index. Subject index.

Note: An inclusive survey of economic, horticultural, and nutritional information on one of the world's most important fruits. The treatment of most topics is brief; for instance, there are only three pages on insect pests. On the other hand, abundant literature references are given, there being nearly 400 such in the book. Topics related to marketing, for example ripening methods, are treated more fully but even in these parts only the main facts are outlined.

VON LOESECKE, HARRY WILLARD

Outlines of food technology Second edition. New York Reinhold Publishing Corporation, 1949 585 p. illus. 24 cm. $7.50. 2572

Contents: The tin can and the glass container. Fruits and their products. Preservation of vegetables. Dairy products. Meat, meat products and poultry. Fish and shellfish. Grains and their products. Edible fats and oils. Sugars and starches. Nuts. Spices, relishes, essential oils and extracts. Beverages. Confectionery. Jams, jellies and preserves, certified dyes. Storage and marketing of fruits and vegetables. Preservation of foods by freezing. Index.

Note: (4580) As the title implies, this book is a general survey of food products and present-day food processing. It is not, however a popularization but is suited to such readers as college students, grocers, and workers in the food-processing industries. It is suitable also as a reference book in libraries. In its new edition it is 80 pages longer. The new and revised material appears throughout and relates both to food products not mentioned in the first edition and to new developments in processing. Both the footnote references to related literature and the helpful lists of suggested readings have been revised.

ZIEGLER, PERCIVAL THOMAS

The meat we eat. Third edition. Danville, Illinois The Interstate, 1952 511 p illus. 24 cm. $3.50 2573

Contents (abridged) Part one. Federal and state meat inspection. Hog slaughter. Cattle slaughter. Lamb slaughter. Veal and calf slaughter. Packing house by-products. The preservation, smoking and storing of meats. Cold storage and refrigerated food lockers. Dressing poultry and game. Part two. Meat as a food. Federal meat grading. Cutting pork and rendering lard. Sausages. The beef carcass and its cuts. The veal carcass and its cuts. The sheep carcass. Meat judging. Meats identification. Appendix: Organizations that promote meat. Index.

Note: A practical manual in which most of the space is given to descriptions of slaughtering methods adaptable to farms and small slaughter houses and to the preparation of meat for use as human food. Such techniques as the slaughtering of hogs and the cutting up of the carcass are described very specifically. Related matters, such as the value of meat as food and governmental grading and inspection of meat, are discussed more briefly. There are more than 240 figures, a majority of which are reproductions of photographs of slaughtering and cutting-up operations. Selected literature references are included.

MISCELLANEOUS TECHNOLOGY

GENERAL

BARR, W E, AND VICTOR J ANHORN
Scientific and industrial glass blowing and laboratory techniques. Pittsburgh Instruments Publishing Company 1949 388 p illus. 21 cm. $6 00 2574

Contents. Introduction Elementary glass blowing seals. The fabrication of multiple glass seals. Tube bends. Spirals. Closed glass tubing circuits Ground surfaces for glass apparatus. Glass to metal seals. Production of high vacuum. Vacuum gages. High vacuum technique in equipment production. Gas adsorption apparatus for measuring surface area. The modified Mascarin-Wright molecular weight apparatus. Swietoslawski ebulliometers. Design and construction of distillation equipment. Index

Note: Here is manual of glass-blowing techniques and related information which is written on professional level. Although it contains information which is of value to students, it is intended chiefly for research workers who must design and sometimes build glass apparatus in the course of their laboratory experiments. The text is concise and clear, and is supplemented by over 300 illustrations of glass-blowing tools, operations and, also, advanced apparatus such as mercury diffusion pumps. Many of the chapters include lengthy lists of references to related literature.

DELMONTE, JOHN
Plastics molding. New York John Wiley & Sons, Inc., 1952 493 p illus. 24 cm. $9 00 2575

Contents: Introduction to plastics molding materials. Hydraulic pumps for molding presses. Mechanical pressure systems. Hydraulic accumulators and packings. Valves for the molding plant. Distribution of gases and fluids. Heat for the molding of plastics. Material preparatory equipment Compression and transfer molding equipment. Design of compression and transfer molds. Injection molding machines. Design features of injection molds. Extrusion equipment for plastics materials. Finishing accessories for the plastics molding plant. Instrumentation for the molding plant. Plant layout Author index. Subject index.

Note: A thorough book on the plant and equipment aspects of the plastics molding industry In most of the chapters particular process is described concisely then the machines and equipment for carrying out the process are discussed. However the emphasis is on principles and uses and the author does not attempt to describe all available machines. Such topics as molds are discussed from the engineering and design viewpoints. The book is of interest to trained engineers concerned either with the organization of plastics molding plants or with their management

HODGEN MARGARET T
Change and history a study of the dated distributions of technological innovations in England. New York Wenner-Gren Foundation for Anthropological Research, Inc., 1952 324 p illus. 25 cm. $4.50 (Viking Fund publications in anthropology No 18) 2576

Contents: The problem of change in the social studies. The historical investigation of dated innovations. Dated distributions of technological innovations. On innovators. Distributions and processes. Technological innovations and migrations Appendix.

Note: This book is based on study carried out to find the answers to such questions as "where during the long British past have technological changes taken place? Among what groups, in what communities, or at what sites and at what dates have the folk displayed technological initiative? What geographical differences in the acceptance of new handicrafts are to be observed between historic Britons and their prehistoric forbears, or among Britons at different historical periods?" About half of the space is devoted to tabulated information on the introduction of crafts such as woolen cloth making, copper mining, and oil engine making into various shires and parishes. The period covered is approximately 1000-1800. Literature references are given. The work is of interest both to the scholarly student of the history of technology and to the student of sociology

SEAMAN ROBERT G, AND ARTHUR M MERRILL editors
Machinery and equipment for rubber and plastics. Volume 1. Primary machinery and equipment. New York India Rubber World, 1952 804 p. illus. 24 cm. $15.00 2577

Contents (abridged) Mills. Mill accessories. Mixers. Calenders and accessories. Extruders. Extruder accessories. Presses, compression. Press accessories. Presses, injection. Molds and mold accessories. Tub coating and handling equipment. Pressure vessels. Heater dryers, and coolers. Tire and tube machinery Hose and belting machinery. Footwear machinery Wire and cable machinery Sole and heel machinery Latex machinery Special plastics machinery Appendix. Index.

Note The first volume published of projected two-volume work. It contains signed articles in which kinds of machines are discussed from the standpoint of their characteristics and usual applications, descriptions of the machines offered by various manufacturers in the United States of America are given, and few advertisements included. In this first volume there are 24 of the signed general articles bearing such titles as "Extrusion and applications of extruders, and "Hard chromium plating of plastic and rubber molds.

SIMONDS HERBERT RUMSEY AND OTHERS
Extrusion of plastics rubber and metals. By Herbert R. Simonds, Archie J Weith and William Schack. New York Reinhold Publishing Corporation 1952 454 p. illus. 24 cm. $10.00. 2578

Contents (abridged) Part 1, Extrusion of plastics: The plastics extrusion industry. Custom extruders. Plastic materials for extrusion. Equipment for plastics extrusion. Theoretical aspects. Conditions. Instrumentation. Mixing of compounds. Design and use of dies. Plastic coatings on filaments Shapes and tubes. Sheeting and films. Extrusion of rubber, metal and wire and other products. Part II, Extrusion of miscellaneous materials. Appendix: Glossary Manufacturers of extrusion equipment. Tables and traded products. Manufacturers of conversion factors. General index.

Note A practical survey of extrudable materials and extrusion processes. It is devoted mainly to the extrusion of synthetic plastic materials, but other materials are included as indicated in the title. It is intended for production engineers and others with practical interests in the subject. There are many tables of engineering data, and the numerous illustrations include photographs of extrusion equipment and operations. Possibly because the book is based primarily on survey of current industrial practices, literature references have been omitted.

RAILROAD OPERATION

BRUCE ALFRED W
The steam locomotive in America its development in the twentieth century New

York W W Norton & Company, Inc., 1952 443 p. illus. 24 cm. $7 50. 2579

Contents: Railways, railroads, and locomotives. Early development of the steam locomotive. The steam locomotive industry. General development of the steam locomotive, 1901 to 1950. The basic development of power transmission, 1901 to 1950. Development of basic elements. Progressive development of individual types of steam locomotives. Development of special-service locomotives. Growth and development of the steam locomotive. The competitors of the steam locomotive. The future design of the steam locomotive. Résumé. Index.

Note: Although the sub-title of this book indicates limitation in time to the present century the earlier development of the steam locomotive from its beginnings to the close of the nineteenth century is adequately outlined. Beginning with 1900, the author gives a detailed account. His chapter on the development of basic elements is over 100 pages long; and in it he has described fully the evolution of such parts of the steam locomotive as the boiler mechanical stokers, grates, cylinders, valves, driving wheels, etc. Inserted pages near the center of the volume contain reproductions of photographs of 144 typical locomotives, and legends under the photographs supply technical details. There is no bibliography. The book is based primarily on the author's life-long experience in the engineering of

McGowan George F

Diesel-electric locomotive handbook—electrical equipment. New York Simmons-Boardman Publishing Corporation, 1951 290 p. illus. 21 cm. $4 95 2580

Contents: The electric transmission. Electrical fundamentals. The electric generator. The traction motor. Exciters, auxiliary generators, motor blowers, dynamic braking. Batteries. Contactors, etc. Electro-motive division electrical equipment. Alco-General Electric electrical equipment. Lima-Hamilton locomotive electrical equipment. Baldwin Locomotive electrical equipment. Fairbanks, Morse electrical equipment. Index.

—— Diesel-electric locomotive handbook—mechanical equipment. New York Simmons-Boardman Publishing Corporation 1951 262 p. illus. 21 cm. $4 95 2581

Contents: The development of the Diesel-electric locomotive. Fundamentals. Lubricating and cooling. Fuel systems—fuel. Pistons, piston rings, liners. Connecting rods, bearings, crankshafts. Valves, timing, heads. Governors. The steam generator. The air compressor. The American Locomotive Company Diesel engine. The Baldwin Locomotive Diesel engine. The electro-motive Diesel engine. The Fairbanks-Morse Diesel engine. The Lima-Hamilton Diesel engine. The gas-turbine locomotive. Index.

Note: Practical books suitable for use in home study by operating and maintenance personnel, especially those preparing to take qualifying examinations for more responsible positions. They are organized in short paragraphs, each of which is introduced by a caption in heavy type. Other aids to facilitate study are a liberal number of good illustrations and numerous electric circuit diagrams. According to the preface the chapters devoted to specific locomotives have been thoroughly checked for accuracy by the manufacturers.

Van Metre, Thurman William

Trains, tracks and travel. Eighth edition. New York Simmons Boardman Publishing Corporation, 1950 432 p. illus 24 cm. $4.95 2582

Contents: Clearing the way. Our steam railroads. The railroad track. The steam locomotive. The challenge to steam. Freight cars. Passenger train cars. Streamliners on parade. Passenger stations and terminals. Freight terminals. The operation of trains. Railroads and national security. Index.

Note: (2163) An expertly written, popular account of American railroads, their history rolling equipment, and operation. It appeals to young people, railroad fans, and general readers. The first edition was published in 1924, and the successive editions portray gradual but major evolution in the equipment of American railroads. In the present edition—which is only nine pages longer than the preceding one—revisions have been made in several chapters. The major change is the rewriting of the final chapter, but new statistical information and new descriptions of equipment have been inserted in several others.

PAPER

American Paper and Pulp Association

The dictionary of paper including pulps boards paper properties and related paper making terms. Second edition. New York American Paper and Pulp Association 1951 393 p. 24 cm. $6 50. 2583

Contents: Philosophy of definitions. Classification and definitions of pulps. Classification of waste materials used in the paper and board industries. Definitions of papers, boards, and papermaking terms. Bibliography.

Note: (4426) More than 2000 terms employed in the various branches of the paper industry are defined in this semi-official work. The definitions, though prepared by experts in the field, are designed for use by both laymen and technically trained readers. As in the previous edition, the majority of the terms refer to types of paper and include concise information on methods of manufacture, history [illegible], uses, and properties. The changes made in this revision are of minor nature and include an expansion of the introductory chapters on pulps and waste materials, the insertion of some new terms, and revision of the two page bibliography.

Casey James P

Pulp and paper chemistry and chemical technology New York Interscience Publishers, Inc., 1952 2 v illus. 24 cm. $15 00 per volume. 2584

Contents. Volume I, Pulping and papermaking: Cellulose and hemicelluloses. Lignin. Pulpwood. Pulping. Bleaching. Fiber preparation. Nature of fiber bonding. Sheet formation. Filling and loading. Internal sizing. Surface sizing. Wet strength. Coloring. Microbiology. Water. Author index. Subject index. Vol. II, Properties of paper and converting: Properties of paper. Use of statistics in the paper industry. Pigment coating. Printing. Laminating and pasting. Internal treatment of paper with resinous materials. Coating with resinous materials. Resins. Capillary reading. Author index. Subject index.

Note: A comprehensive treatise in which papermaking is viewed as essentially a chemical process. However there is little in it of chemical theory. Instead the author has presented detailed information on the various processes that enter into the manufacture of pulp and paper, including only the strictly mechanical, on the physical and chemical properties of paper, the kinds and properties of paper coatings, etc. There are many hundreds of footnote references to the literature.

Graff John Henry

Microscopy of pulp and paper Appleton, Wisconsin The Institute of Paper Chemistry 1952 398 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. Number 177) Paper $15 00 2585

Note (4429) A bibliography which is complementary to the author's *Pulp and paper microscopy* issued by the same publisher in 1942. The arrangement is alphabetical by name of author and there are fully detailed author and subject indexes. Each entry is annotated. The international literature has been covered and the coverage is essentially complete through 1949. In addition some references have been added to material that appeared during 1950.

Joint Textbook Committee of the Paper Industry of the United States and Canada

Pulp and paper manufacture prepared under the direction of the Joint Executive Committee on Vocational Education representing the Pulp and Paper Industry of the United States and Canada. J Newell Stephenson, editor in-chief. New York. McGraw Hill Book Company Inc., 1950–51 2 v 24 cm. Vol. 1 $10.00 Vol. 2 $7.50. 2586

Contents: Volume I, Preparation & treatment of wood pulp: Structure and properties of pulpwood. Preparation of pulpwood. Manufacture of mechanical pulp. Manufacture of sulphite pulp. Manufacture of alkaline-process pulps. Treatment of pulp. Bleaching of wood pulps. Testing of wood pulp. Index. Volume II, Preparation of stock for paper making: Pulping of rag and other fibers. Wastepapers, board-stock preparation; deinking processes. Beating and refining. Fillers and loading. Sizing of paper. Paper coloring. Semichemical, high-yield chemical, and special groundwood pulping processes. Index.

Note: (4430b) *The manufacture of pulp and paper* prepared by the Joint Executive Committee of the Vocational Education Committee of the Pulp and Paper Industry of the United States and Canada, was published during 1921–23 in five volumes. During 1927–29 a second edition was issued of volumes 3, 4 and 5, and during 1937–39 a third edition of the same volumes appeared. The present work, of which the first two volumes are at hand, is an extensive revision and expansion of these three volumes. The text has not been so much rewritten as revised by interpolating and adding to the text of the third edition. Much new material including new tables and illustrations has been added. It is still intended for practical workers in pulp and paper manufacturing industries. Although designed both for school use and home study the treatment throughout is so authoritative and detailed that the work will amount to a comprehensive encyclopedia of pulp and paper manufacture. Beginning with this revision, the complete set will consist of four volumes, the present ones and others titled as follows: Vol. III, *Manufacture and testing of paper and board;* Vol. IV *Auxiliary paper mill equipment.*

MOSHER, ROBERT H., editor

Specialty papers their properties and applications. Prepared by a staff of specialists under the editorship of Robert H Mosher Brooklyn N Y Remsen Press 1950 520 p. illus. 23 cm. $10.00 2587

Contents (abridged) Gift wraps, fancy box and packaging papers, by R. H. Mosher. Decorative papers: Display papers and lamp shade stock, by R. H. Mosher Paper drapes, by J. C. Pickering, Jr. Wall papers, by R. Blakeslee. Functional and protective papers: Food packaging, by J J Austin. Metal parts wrappers, by R. H. Mosher. High-gloss specialty papers. Flint glazed papers, by R. Blount. Friction-glazed papers, by R. H Mosher Brush-enamel papers, by F C Hayward Miscellaneous decorative papers: Metallic coated papers, luminescent coated and printed papers, etc., by R. H. Mosher Miscellaneous functional papers Photosensitive papers, by C. E O. Thomas. Asphalt and waterproof papers, by M. L. Downs. Waxed papers, by A. M. Worthington. Gummed and specialty tapes and labels, by F W Farrell. Carbon papers, by R. R. Wienaga. Filters, by W H. Allen. Metal-foil papers, by J. H. Davies Glossary by R. H. Mosher. Index.

Note: Each chapter in this work contains information on the history, properties, uses, and manufacture of a specific type of specialty paper. Practically all of the chapters are accompanied by substantial bibliographies. The book appears to be the only full-scale treatment of the subject.

MOSHER, ROBERT H. editor

The technology of coated and processed papers. Prepared by a staff of specialists under the editorship of Robert H. Mosher New York Remsen Press Division, Chemical Publishing Co., Inc. 1952 733 p. illus 22 cm. $15 00 2588

Contents: Introduction, by R. H. Mosher Theory of high polymers and their application to the paper-converting industry by R. T Mesrow. Rheology of paper coatings and instruments for the measurement of their flow properties, by P Denny Water-soluble coatings, by R. H. Mosher Solvent coatings and solvent-recovery systems, by M. Brown. Water-dispersion coatings, by R. H. Mosher. Hot-melt coatings, by R. C. Miller Organosol and plastisol coatings, by J. M. Furness. Paper converting machinery by F W Egan Printing inks and printing processes, by R. H. Mosher. Adhesives and lamination processes, by F C Compton. Saturating agents and paper saturation, by W A Abramowitz and others. Machine production of printing papers and resin treated specialties, by R. H Mosher. The testing of raw stock, raw materials and specialty papers, by R. H. Mosher Index.

Note. A companion volume to R H. Mosher ed., *Specialty papers: their properties and applications,* described above. The title published first describes the papers themselves, and this one is devoted mainly to the technology of their manufacture. Each chapter is the work of a specialist associated with the paper converting industry or with a supplier to this industry and is accompanied by a bibliography A wide range of information on present-day materials and processes is presented. There are 103 tables of useful data and 130 figures. The editor is General Manager of the Mead Valley Coated Paper Company

WEST, CLARENCE JAY

Paper testing Second edition. Appleton, Wisconsin The Institute of Paper Chemistry 1949 182 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 139–144 June 1949) Paper $5 00. 2589

Contents: Introduction. General articles. Bending strength. Bursting strength. Compressibility Creasing quality Smoothness. Folding endurance. Stiffness, softness, rigidity Stress-strain properties. Stretch, elasticity Tearing strength. Tensile strength. Wet tensile strength. Author index. Patent index.

Note. A comprehensive listing of all the important articles relating to the methods of testing the strength of papers. The entries are annotated and grouped as indicated above. In this edition the number of references has been increased from 534 to 650.

WEST CLARENCE JAY

Pulping processes. Parts I–IV Appleton, Wisconsin The Institute of Paper Chemistry 1949–50 4 v 27 cm. (The Institute of Paper Chemistry Bibliographic series. Nos. 172–175) Paper $5.00 each. 2590

Contents (abridged) Part I, Nitric acid process. Part II, Chlorine process. Part III, Ammonia, magnesium, and sodium bases for sulfite pulping. Part IV Semichemical processes.

Note: An extensive bibliography of articles, books, and patents descriptive of the various types of pulping processes which have been studied experimentally or which are in actual commercial use. The entries are annotated and within each subgroup are arranged alphabetically by author Each volume includes patent and author indexes.

WEST CLARENCE JAY

Slime control and prevention. Appleton, Wisconsin The Institute of Paper Chemistry 1949 76 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 170) Paper $5 00. 2591

Note: A bibliography of periodical articles and manufacturers' literature on the control of slime in pulp and paper plants. References relating to the treatment of [illegible] water at the [illegible] of moist pulp are not included. The entries are annotated and arranged alphabetically by author.

WEST, CLARENCE JAY

Wet strength of paper Second edition. Appleton, Wisconsin The Institute of Paper Chemistry 1951 155 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 168) Paper $5 00 2592

Note. A bibliography of books, articles and patents on the treatment of paper to give it wet strength and on the testing and uses of such paper. The entries are annotated. In this edition there are 391 references as compared with 177 in the first edition. An index to the listed patents is provided.

REFRACTORIES

AMERICAN IRON AND STEEL INSTITUTE

Refractories bibliography 1928–1947, inclusive. New York The Institute and the American Ceramic Society Columbus, Ohio. 2109 p. 28 cm. $15.00. 2593

Note: A major bibliography containing more than 11,000 references, almost all of which are accompanied by an abstract. The entries are arranged alphabetically by author; otherwise the book resembles *Chemical abstracts* in organization and style. The subject index is very detailed.

NORTON FREDERICK HARWOOD

Refractories. Third edition. New York McGraw Hill Book Company Inc., 1949 782 p. illus. (part col d) 24 cm. $10 00. 2594

Contents (abridged) Part I, Introduction Scope of the refractories industry in the United States. Literature on refractories. History of refractory development in the United States. Part II, Manufacture: Refractory raw materials. Molding methods. Drying. The firing of clay and other refractory materials. Kilns for burning refractories. Some special refractory materials. Part III, Properties: The fusion point of refractory materials and their equilibrium diagrams. Load bearing capacity of refractories. Spalling. Expansion and shrinkage. Sizes and tolerances. Miscellaneous properties of refractories. Part IV, Uses: Refractories in the iron and steel industry. Refractories in the generation of steam power. Refractories in use in nuclear power production. Refractories for gas-turbines and jet propulsion engines. Brickwork construction. Appendix: Reference tables. Index.

Note: (4443) A comprehensive treatment in which there is information on practically all aspects of the subject from the early history of the industry in the United States to probable future uses of refractories. It is designed primarily for engineers and other persons with technical education or experience. However some parts, especially those dealing with uses, are sufficiently non-technical to be useful to laymen who may need reference information. A considerable amount of material has been added to this edition, including chapters on refractories in nuclear power production and in gas turbines and jet propulsion engines. Statistical information and also the unusually extensive bibliographies have been brought down to date.

TEXTILES

MAUERSBERGER, HERBERT RICHARD, AND OTHERS

American handbook of synthetic textiles American synthetics handbook a practical text and reference book for the entire textile and related industries. By Herbert R. Mauersberger and twenty collaborators. Over 430 tables, charts, flowsheets, and illustrations. New York Textile Book Publishers, Inc., 1952 1216 p. illus. 20 cm. $10.80 2595

Contents: Historical background. Economics and statistical background, by S. B. Hunt. Preparation of cellulose. Cellulosic fiber yarn and tow processes. Manufacture of nylon yarns and staple. Manufacture of synthetic fibers, filaments and yarns (other than nylon). Processing of synthetic staple. Winding, coning and filling preparations. Warping and warp sizing. Throwing and twisting, by V. A. Schafer. Weaving of synthetic fabrics. Synthetic gray goods constructions. The manufacture of knit goods, by G. A. Urlaub. Dyeing of synthetics, by A. R. Macormac. Dye nomenclature, by A. R. Macormac. Synthetic piece goods printing, by H. P. Baumann. Finishing of synthetic fabrics, by L. Shapiro. Performance standards for rayon fabrics, by J. Labarthe, Jr. Identification of synthetic fibers by X-ray diffraction, by A. N. J. Heyn. Books, bibliographies and literature references. Appendix. Index.

Note: The first edition of useful reference book. It is addressed primarily to the personnel of the textile industry and is written largely in technical terminology. A very wide range of information is included, ranging from an outline of the historical development of synthetic fibers and textiles to formulas for use in the printing of piece goods. A number of chapters contain bibliographies in addition to the general bibliography at the end of the book. The volume in hand contains approximately 100 pages of advertising which are not included in the pagination given above.

MERRILL GILBERT ROSCOE AND OTHERS

American cotton handbook, a practical text and reference book for the entire cotton industry by Gilbert R. Merrill Alfred R. Macormac and Herbert R. Mauersberger Second revised edition. New York Textile Book Publishers, Inc., 1949 943 p. illus. 20 cm. $9.50. 2596

Contents: Historical background. Economic and statistical background of cotton growing and manufacturing, by J. R. Wallace. Cellulose and the cotton fiber. The cotton plant its cultivation and varieties. Ginning, classing and marketing. Opening and picking. Carding and combing. Drawing and roving operations. Standard and long draft spinning. *Winding and twisting. Spooling,* warping and slashing. Weaving of cotton gray goods. Knitgoods manufacture. Bleaching and processes preparatory to dyeing. Dyes and cotton dyeing. Printing piece goods. Cotton goods finishing. Physical testing of fibers, yarns and fabrics, by K. R. Schwarz. Chemical testing, by L. P Sheehan. Nomenclature of cotton dyes. *Bibliography* Subject index.

Note. A comprehensive technical and economic reference book. By far the greater portion of space is given to manufacturing processes. Substantial changes are made in preparing this edition. Several chapters which appeared in the first edition do not appear in this one. These include such useful chapters as the one on cotton gray goods construction, the one on the laundering of cotton materials, and the glossary of cotton terms. On the other hand, fuller treatments are now included of such operations as bleaching, dyeing, printing, and finishing. The most notable change is found in the bibliography which has been approximately tripled in number of entries.

SIU RALPH GUN HOY

Microbial decomposition of cellulose with special reference to cotton textiles. New York Reinhold Publishing Corporation 1951 531 p illus. 22 cm. $12.00. 2597

Contents Part A, Introduction Cellulose decomposition in nature. Part B, Structure and properties of cotton fabrics: Morphological, physical and chemical features of cotton fibers. Structural features of cotton fabrics. Part C, Causal organisms: Morphological and taxonomic aspects. Effect of nutritional and environmental factors on cellulolytic activity of microorganisms. Part D Mechanism of degradation. Gross attack on fabrics. Biochemical transformation of cellulose molecules. Part E, Methods of prevention. Theoretical considerations. Methods for testing microbiological resistance of cotton textiles. Prevention of microbiological damage by physical barriers. Prevention of microbiological damage by toxic inhibitors. Prevention of microbiological damage by chemical modification. Author index. Index of microorganisms. Subject index.

Note. A synthesis of scientific information on the deterioration and destruction of cellulosic materials by bacteria and fungi. The author's discussions of basic matters such as causal organisms are potentially of interest to anyone concerned with the topic but his "case histories" and his information on prevention of deterioration are largely restricted as the title indicates to cotton textiles. The heavy documentation is indicated by the fact that there are approximately 2,200 names in the author index. The author is Research Director of the Pioneering Research Laboratories of the U S. Army Quartermaster Corps.

SKINKLE, JOHN HENRY

Textile testing physical, chemical and microscopical. Second edition, revised and enlarged. Brooklyn N Y Chemical Publishing Co Inc., 1949 353 p illus 22 cm. $7 75 2598

Contents. Part I, Physical testing: Statistical analysis. Moisture determinations. Fiber testing. Yarn testing. Fabric testing; construction—properties dependent upon air space—water and fabric relationships—tactile and draping qualities (handle)—serviceability, wear. Abrasion. Strength and strength testing of fibers, yarns, and fabrics. Part II, Chemical testing: Introduction and general considerations. General and inorganic extraneous matter. Organic extraneous matter. Fiber mixtures. Swelling and damage in cellulose fibers. Damage to wool. Damage to silk. Part III, Microscopical testing: Identifications. Quantitative microscopical determinations. Index.

Note. In its second edition this useful manual has been enlarged by 61 pages and improved by thorough revisions of text and format. The most important addition is scheme of analysis to identify organic matter in finishing agents, in which the presence or absence of certain groups is determined first then each group is analyzed for its individual components. There are descriptions of various new instruments and tests, such as the A. S. T. M. test for measurement of absorption by spraying, drop penetration tests, and the drape meter developed by the A. A. T. C. C. The lists of references have been extended.

HANDICRAFTS

ATWATER, MARY MEIGS

The shuttle-craft book of American hand weaving being an account of the rise, development, eclipse, and modern revival of a national popular art, together with information of interest and value to collectors technical notes for the use of weavers & a large collection of historic patterns. With illustrations. Revised edition. New York The Macmillan Company 1951 341 p. illus. 23 cm. $5.50. 2599

Contents: Origins and development. Weaving heirlooms—the scope of this book. Beginner's problems. Design of the fabric. Choice of pattern and color. Setting up the loom. Adjustments, knots, the tie-up. Weaving. The plain weave. The twill weave. The four harness overshot weave. Additional four-harness weaves. The summer-and-winter weave. The "spot" or "Bronson" weave. Double-faced twill and damask. The double weave. Leno. Rug making. Pick-up weaving. Finishes. Index.

Note: This is the completely revised edition of a standard handbook on American weaving first published in 1928. It gives an account of the history of hand-weaving, its origin, development, decline, and modern revival. It also gives instructions for weaving and other information, including advice on the choice of looms and materials. Patterns for weaving are presented in technical diagrams and in photographic reproductions. Writing on the basis of long experience with the craft of hand-weaving, the author gives detailed directions for the fundamental processes, gives accounts of the weaves and patterns current in colonial North America, and supplies information on weaves from the southwestern United States, Mexico, Guatemala, and Peru. The author does not endeavor to cover Scandinavian weaving, tapestry weaving, draw-loom weaving, or fly-shuttle weaving. Although beginners without other instruction may find the work somewhat advanced, the book is to be recommended for any persons earnestly interested in the practice of hand-weaving.

BAXTER, WILLIAM THOMAS

Jewelry gem cutting and metalcraft. Third edition, revised and enlarged. New York Mc Graw Hill Book Company Inc. 1950 334 p. illus. 21 cm. $4.50 2600

Contents: Metalcraft. Jewelry making. The art of gem stone-cutting. Identification of gem stones and gem minerals. Dealers. Magazines devoted to mineralogy and gem cutting. Books of interest. Index.

Note: The techniques of jewelry making and gem cutting described in this volume are based on methods taught by the author in his classes at Woodrow Wilson High School, Washington, D. C. The material is thus written for the guidance of novices and amateur craftsmen. This revision follows the pattern set by the previous editions, and employs numerous photographs to supplement the detailed working instructions. New sections have been added on facet cutting of gem stones, centrifugal casting, and making spoon-handled forks and spoons. The list of equipment dealers and the brief bibliography have been brought up to date.

BLACK, MARY E

Key to weaving a textbook of hand-weaving techniques and pattern drafts for the beginning weaver. Revised and enlarged. Milwaukee The Bruce Publishing Company 1949 324 p. illus. 27 cm. $6.50 2601

Contents: The loom. Preparing the loom. General information. Two-harness weaves. Three-harness weaves. Four-harness weaves. Five-harness weaves. Six-harness weaves. Eight-harness weaves. Weaving [illegible]. Floor coverings. Bibliography. Glossary of weaving terms. Weaving terms in foreign languages. Index.

Note: The author of this detailed and fully-illustrated text is Director of the Handicrafts Division, Department of Trade and Industry Nova Scotia. As indicated, the book is written for the beginner and provides descriptions of the various types of looms and methods of setting them up. The greater part of the volume, however, consists of instructions for weaving specific patterns and varieties of textures. In this edition new material has been added on warping, threading, two-harness weaving, and weaving of narrow webs on [illegible] looms. The final chapter on floor coverings is also new.

CHERNER NORMAN

Make your own modern furniture working plans and room designs for more comfortable and convenient living. Drawings by Norman Cherner and Frank Stork. Photographs by Thomas Yee. New York McGraw Hill Book Company Inc., 1951 140 p. illus. 26 cm. $4.50. 2601

Contents: Part one, Factors in furniture design: Your home is you. Your home is your budget and space. Fabrication and material. Steps in designing and planning the furniture. Part two, Suggested interior arrangements: One-room apartment. Living room. The room you sleep in. The room you eat in. Pleasant isolation. The child's room. Part three, Suggested furniture ideas: Seating and bedding. Table and work surfaces. Storage. Finishing. Upholstery. Reflections on tomorrow's interior.

Note. In this volume are presented instructions and plans for the construction of simple modern-style furniture. The book is written for the amateur craftsman, and the various operations require only the use of hand woodworking tools. The lists of materials, assembly instructions, and sketches of construction details are preceded by brief descriptions of the basic wood working techniques. Considerable space is devoted to the selection and design of furniture to meet specific needs. Numerous photographs of furniture arrangement are

CRAMLET ROSS C

Woodwork visualized. Milwaukee The Bruce Publishing Company 1950. 158 p. illus. 27 cm. $1 76 2603

Contents (abridged): Tool identification and classification. Lumber. Saws. Planes. Chisels. Knives. Wood files. Layout tools. Boring tools. Holding tools. Drilling tools. Scraping tools. Tool sharpening. Joinery. Fastenings. Hardware. Finishing. Projects. Index.

Note: An introductory book to the common hand woodworking operations and to the tools with which they are performed. It is included here because of the unusual method of presentation. Almost the entire space is given to [illegible] of plates on which tools and operations are shown in exceptionally clear drawings. The drawings are accompanied by legends that explain the tool or operation.

FABBRO MARIO DAL

How to build modern furniture. New York F W Dodge Corporation, 1951–52 2 v illus. 29 cm. $6 00. each volume. 2604

Contents (abridged): Volume 1, Practical construction methods: General notes about wood. Butt joints. Rail to frame joints. Joining three pieces. Plywood. Veneer. Molded plywood. Fixed fabric or board. Hinges. Application of doors to furniture. Catches and locks for doors. Adjustable shelves. Joining legs to furniture. Joining wood and glass. Joining metal and wood. Common metal joints. Joining plate glass to metal. Joining metal to rubber. Upholstery work. Volume II, Designs and assembly: Tools and equipment.

Methods of woodworking. Standard furniture measurements. Furniture you can build.

Note: Not only is this work devoted entirely to furniture in the modern style, but it covers certain operations such as joining wood and glass which are not discussed in older books on furniture making. The greater part of the space is devoted to reproductions of drawings and photographs, and the exposition is largely in the form of legends which accompany the illustrations. The work is addressed to amateur craftsmen. Dimensioned drawings, bills of materials, etc., are given for a considerable range of domestic furniture.

FRIED, HENRY B

The watch repairer's manual. New York D Van Nostrand Company Inc., 1949 307 p illus. 24 cm. $6.00. 2605

Contents: The modern watch. Cleaning and overhauling the watch movement. How to case a watch. Adjusting the cannon pinion. Mainspring repairs. How to make a stem. Fitting a balance staff. How to make a balance staff. Adjusting the balance staff. How to true a balance wheel. How to poise a balance wheel. Replacing a pallet jewel. Replacing a roller jewel. Causes of overbanking (set of action). Adjusting pallet-guard fingers. How to put a watch in beat. *Collecting and studying* hairsprings. *General repairs. Trouble shooting.* Appendices. Bibliography. Index.

Note: An excellent book whether it is used as a text or reference manual. All watch repairing operations which the average watchmaker will need to know are described explicitly and the majority of them are also illustrated in *clear, generously proportioned drawings.* The book is suitable for use either in organized courses or in home study. The author is Head of the Department of Horology at the George Westinghouse Vocational High School in New York City.

HAINES, RAY EDWARD AND OTHERS

The wood-turning lathe. By Ray E. Haines, John V Adams, John G Miller Robert L. Thompson, and *Raymond Van Tassel. New* York D Van Nostrand Company Inc., 1952 132 p. illus. 26 cm. (The home work shop series) $2 95 2606

Contents: History and basic principle of the lathe. The home workshop lathe. Basic tools and accessories—their care and use. Basic operations. Advanced and special operations. Projects. Index.

Note: An introductory book for home mechanics. In it the wood-turning lathe, the tools and accessories used with it, and the basic operations on it are described clearly and simply. Both tools and operations are also shown in pictures. The chapter on projects accounts for more than half of the space. It contains detailed descriptions, including lists of materials and dimensioned drawings, for a variety of simple articles such as lamps, salt and pepper shakers and small tables.

HAWKINS REGINALD ROBERT, AND CHARLES H. ABBE

Home mechanic's outdoor handbook. New York D Van Nostrand Company Inc., 1950 490 p. illus. 21 cm. $5 95 2607

Contents: Driveways. Walks, stepping stones, steps, curbs, edgings. Terraces. Walls, tree wells and boxes, window wells, compost enclosures. Outdoor fireplaces, grills, incinerators. Fences, gates, stiles. Summerhouses, arbors, and trellises; foot bridges and other small structures. Small buildings. Garden pools. Swimming pools. Sprinkling systems. Tennis courts; other recreation areas. Outdoor lighting. Basic operations. Planning the grounds. Bibliography. Index.

Note: A manual of information on how to build driveways, terraces, outdoor fireplaces, and many other structures which enhance the utility and beauty of the well kept yard. It is written primarily to enable homeowners to design and build such structures themselves, but the suggested plans and construction details will be helpful also to those who have the actual work done by others. Much practical information is included which is not readily available elsewhere. The chapter on basic operations discusses such matters as stump removal, grading, concrete making, and masonry operations. Numerous sketches and working designs are included. Although practically all of the typical garden structures are covered, the book is essentially one for the average homeowner rather than the garden hobbyist.

HOARD, F E., AND A. W MARLOW

The cabinetmaker's treasury New York The Macmillan Company 1952 267 p. illus. 26 cm. $6 00. 2608

Contents: Essential processes in cabinetmaking. Chairs. Stools. Tables. Beds. Cupboards. Chests. Desks. Mirrors and dressing glasses. Clock cases. Period characteristics of English and American *furniture. Glossary*

Note: A book addressed to craftsmen (both amateur and professional) with some previous experience in woodworking. Certain fundamental operations, such as the making of joints, the construction of bracket feet, fluting and reeding of turnings, and carving are discussed briefly in the first chapter. The rest of the book is devoted to scaled drawings of furniture pieces and to fairly detailed procedures for making the pieces. Altogether there are 102 full-page plates of drawings. The book is especially suited to the needs of skilled amateur craftsmen who are interested in the making of fine furniture.

HOME, RUTH M

Ceramics for the potter Peoria, Ill. Chas. A. Bennett Co. Inc., *1952 229 p.* illus. *24* cm. $4.50. 2609

Contents: From elements to clays. Clays: their classification and uses—their characteristics. The effects of heat on clays. Clay resources of the world. Bodies from naturally occurring clays. Bodies: hard paste porcelain—soft-paste porcelain. *From slips to glazes.* The porcelain glaze. Oxides and acids of glazes. Glazes. Enamels. Stamping. Pattern and colour. Kilns. The future of pottery. Appendices. Bibliography. Index.

Note: This book is a blend of historical, scientific, and technical *information rendered in terms that anyone—layman or professional—* with serious interests in pottery can understand. Although the text includes some mathematical and chemical symbols, it is written in a pleasant lucid style and is designed for straight reading. Basic technical data of a reference nature, such as atomic weights, chemical composition of clays and glaze formulas, are collected in the appendices.

HUNT, WALTER BERNARD

Indian silversmithing. Milwaukee Bruce Publishing Company 1952 160 p. illus. 27 cm. $5.50. 2610

Contents (abridged): Tools and equipment. Concha buttons. Money clips. Tie clasps and bar clips. Lapel pins and brooches. Rings. Tarnishing or antiquing. Turquoise in Indian jewelry. Channel work. Ear ornaments. Concha belts. Neckerchief slides. Appliqued work. Fill and stamp boxes. Oval and round saltcellars. Bracelets. Arm guards or ketoh. Belt buckles. Squash blossom necklaces. Wrist-watch bands. Miniature vases and canteens. Index.

Note. A good book on a class of handicraft articles that should be popular with amateur jewelry makers. The tools and the operations of working with silver and turquoise, jewelry articles patterned after those made by the Navajo Indians and other tribes in the Southwest, are described clearly for beginners. There are seventy figures and four plates in color all of which appear to be reproductions of photographs. In addition there are forty-eight plates of reproductions of drawings made by the author. The author is an authority on American Indian crafts and many authentic designs are shown. However the inclusion of such articles as salt-cellars and an antique tea steeper indicates that the book is not limited to articles of Indian origin.

KENNY JOHN B

The complete book of pottery making With photographs and drawings made especially for this book by the author New York Greenberg 1949 252 p. illus. (part col d) 27 cm. $7.50. 2611

Contents: Introduction to clay. Getting started. The potter's wheel. Plaster of paris. Molds. Slip casting. More about plaster. Clay and clay bodies. The kiln. Glazes. Mixing glazes. Decoration. Do potters eat? Index.

Note. A detailed and practical guide to the art of pottery making for both the beginner and advanced craftsman. The author progresses gradually from the elementary operations performed by hand and on the wheel to the more difficult techniques of making molds, firing, and glazing. Numerous sketches and photographs showing the

various stages of each process constitute an important feature of the book. A final chapter discusses the possibilities of pottery making as a career.

KINGERY, ROBERT ERNEST
How-to-do-it books a selected guide. New York R. R. Bowker Company 1950 293 p 20 cm. $3.50 2612

Note. A useful guide to books and pamphlets on handicrafts, nature study child care, gardening, and a host of other subjects. Most of the books listed were written for use by amateurs and laymen. Information on the following points is given for each book listed title, author's name, publisher year of publication, number of pages, price, and an annotation descriptive of the book content or purpose.

KINNEY RALPH PARSONS
The complete book of furniture repair and refinishing. Easy to follow guide with step-by step methods. New York Charles Scribner's Sons, 1950 240 p. illus. 25 cm. $3 50 2613

Contents Restoration, Repairs, Removing old finish. Preparing for new finish. Refinishing Reviving old finishes Enameling and "trade" furniture finishes. More about materials Tools for the beginner. More hand tools. Sharpening and care of tools. Care and storage of paints and brushes. The home workshop—tools and shop practice Care of furniture. Formulas. Reference books. Acknowledgments. Index.

Note: One of the better books on this subject for amateur craftsmen. The restoration and refinishing of old furniture are emphasized, but part of the material is applicable as well to the finishing of new furniture and to the finishing or refinishing of articles of wood other than furniture. Most of the text consists of concise discussions of specific points or detailed directions for specific operations. Many of the illustrations have been made from photographs of refinished antique furniture.

MARGON LESTER
Construction of American furniture treasures measured drawings of selected museum pieces with complete information on their construction and reproduction 38 full page plates, 344 detail drawings and more than 40 photographs of the work of the most famous early American cabinetmakers. New York The Home Craftsman Publishing Corporation, 1949 167 p. illus. 30 cm. $4 95 2614

Note: Measured drawings constitute the outstanding feature of this book. As indicated in the title, the furniture depicted is American and all of the pieces illustrated are now in the collections of museums or historic houses. Each piece represented is shown in a photograph, then its dimensions and construction details are shown in one or more plates of drawings. The book is intended for amateur craftsmen and cabinetmakers who are interested in making replicas of historic furniture; consequently the illustrations are accompanied by detailed directions for construction and finishing of the pieces.

PELTON, B W
Furniture making and cabinet work, a handbook. New York D Van Nostrand Company Inc., 1949 596 p illus. 24 cm. $6 95 2615

Contents: Cabinetmaking. Indoor furniture construction. Outdoor furniture. Built-in furniture and conveniences. Furniture finishing. Veneers and inlays. Upholstery and seat weaving. Restoration, repair and refinishing. Salvaging discarded furniture. Principles of interior decoration. Indoor remodeling. Index.

Note: Practical and detailed instructions for the amateur craftsman in the art of constructing a wide variety of indoor and outdoor furniture. Each project includes a dimensioned drawing, a list of materials required, and step-by-step construction methods. The project section is preceded by a description of basic woodworking operations and tools. The final chapters, although less detailed than the ones on furniture, provide information on the basic steps in room remodeling and interior decoration.

STANLEY WORKS. STANLEY TOOLS DIVISION
How to work with tools & wood. For the beginner for the home craftsman for the handyman for the homeowner New Britain, Connecticut Stanley Tools Division of the Stanley Works, 1952 181 p. illus. 24 cm. 2616

Contents. All of us can use tools. How to become skilled. Let's make something. Taking it from a working drawing. Finishing up the bookrack. This will be a bench. And now about using tools. Sharpening the tools. More about putting the pieces together. Some fancy touches. Getting it ready for use. Things around the house. Index.

Note: A simple, fully illustrated introduction to hand woodworking tools and to such hand operations as planing, sanding, boring, and the making of joints. Some finishing operations are covered also.

INDUSTRIAL MANAGEMENT

GENERAL

ABRUZZI, ADAM

Work measurement new principles and procedures. New York Columbia University Press, 1952 290 p illus. 24 cm. $6.00. 2617

Contents. Introduction Industrial experimental studies. Designing research program on industrial productivity The problem of process standardization. Case studies of local stability Studies of local stability: implications. Case studies of grand stability Studies of grand stability: implications. Developing standard data for operation elements and motions. The relationships among operation elements. Comparing the work methods of different operators. The implications of the likelihood ratio results. Motion standard data and related questions. Obtaining useful measurements and estimates. Measuring and estimating delay factors. Bibliography Index.

Note. This book treats the subject of industrial work management from a new approach based upon modern experimental techniques. As a result of a series of intensive studies of representative industrial operations, the author produces evidence to show that all standard data procedures used for work measurement hitherto are invalid. He introduces procedures which eliminate the most controversial aspect and the weakest link of present practice by doing away with the need for rating worker performance. He also shows that there is no "one best way" of performing industrial operations. In presenting a methodology for handling the problems of work measurement, he presents objective procedures and criteria for deciding how a process can be considered standardized and for determining when certain standard data have predictive value. The book is of interest to persons who are professionally concerned with the theory of work measurement, especially industrial engineers. Full comprehension of the presentation demands an understanding of mathematical statistical analysis.

ALFORD, LEON PRATT

Principles of industrial management. Revised edition. Revised and rewritten by H. Russell Beatty New York The Ronald Press Company 1951 779 p. illus. 24 cm. $6.25 2618

Contents (abridged) The background of modern industrial management. The effects of mechanization. Expansion of industry in the United States. The ownership of industry. Planning—objectives and policies. Organization for control. Organization for operation. Simplified practice and engineering standards. Control of purchasing. Inventory control. Production planning and control. Quality control. Inspection. Motion and time study. Classification and symbolization. Cost accounting. Maintenance of buildings and machinery. Personnel administration. Wage and salary administration. Employment and personnel services. Industrial safety—accident and disease prevention. Index of names. Index of subjects.

Note. An unusually comprehensive and thorough presentation of the basic principles and practices of industrial management. The book, although intended primarily for use as a college text, has considerable value as a reference manual for the practicing executive. Emphasis is placed on fundamentals but numerous illustrations of actual management techniques are included. This edition, a revision of *Principles of industrial management for engineers*, New York, 1940, has been extensively rewritten and enlarged. New chapters have been added on industrial leadership and marketing and the sections on quality control and motion and time study have been greatly expanded—changes which account for almost 230 additional pages.

APPLE, JAMES MACGREGOR

Plant layout and materials handling. New York Ronald Press Company 1950 367 p illus. 23 cm. $5.00 2619

Contents (abridged) The plant layout function. Production planning. Introduction to the materials handling problem. Materials handling equipment. Materials handling and related functions. Operation planning. Layout planning. Service departments. Checking and approving the layout. Plant location. Industrial plant buildings. Appendix Conveyor data. Lift trucks. Materials handling surveys. Railroad and highway transportation. Building construction and service facilities. Plant layout template and model standards. Bibliography Index

Note In this work plant layout and materials handling are presented as elements in industrial engineering. Much emphasis is put on co-ordination of the plant layout and the materials handling system with the over-all plan and function of the plant. Typical equipment is discussed and illustrated, but this matter is incidental to the main theme. The book is suitable for use both as a textbook and as an introduction or "refresher" for practicing engineers.

BELLOWS ROGER MARION

Psychology of personnel in business and industry New York Prentice-Hall, Inc., 1949 499 p. illus. 23 cm. (Prentice-Hall industrial relations and personnel series, Dale Yoder editor) $6 70 2620

Contents Part I, Development of personnel technology: Personnel methods serve management. Background of personnel technology. Part II, Tools for effective use of personnel Criteria. Job analysis. Attracting personnel. Selection interviewing. The use of psychological tests. Training. Job evaluation. Personnel incentives. Merit evaluation. Employee dynamics—turnover control. Part III, Worker satisfaction through human understanding: Industrial social psychology. Employee counseling. Planned communications. Techniques for improving communications. Employee attitude surveys. Employee suggestion systems. Part IV, Implications of personnel technology: Personnel men as leaders. Trends in personnel research. Appendixes. Index.

Note The psychology of human relations in business and industry is considered in all its aspects in this textbook for students of business administration and other persons interested in improving personnel management by use of personnel systems and procedures. Personnel methods and management are covered from the sociopsychological viewpoint. Summaries and selected references appear at the ends of chapters. The appendixes contain much useful information, including lists of sources for motion pictures and sound-slide films, distributors of government training films, colleges giving courses in personnel subjects, suppliers and publishers of tests, publishers of pamphlets on occupations, periodicals, and research and professional organizations in the field of personnel and industrial relations.

BETHEL, LAWRENCE L. AND OTHERS

Industrial organization and management, by Lawrence L. Bethel, Franklin S Atwater George H. E. Smith and Harvey A. Stackman Jr Second edition. New York McGraw-Hill Book Company, Inc. 1950 851 p. illus. 24 cm. (McGraw-Hill industrial organization and management series, L. C. Morrow consulting editor) $7.00. 2621

various stages of each process constitute an important feature of the book. A final chapter discusses the possibilities of pottery making as a career.

KINGERY, ROBERT ERNEST

How-to-do-it books: a selected guide. New York: R. R. Bowker Company, 1950. 293 p. 20 cm. $3.50. 2612

Note: A useful guide to books and pamphlets on handicrafts, home study, child care, gardening, and a host of other subjects. Most of the books listed were written for use by amateurs and laymen. Information on the following points is given for each book listed: title, author's name, publisher, year of publication, number of pages, price, and an annotation descriptive of the book's content or purpose.

KINNEY, RALPH PARSONS

The complete book of furniture repair and refinishing. Easy to follow guide with step-by-step methods. New York: Charles Scribner's Sons, 1950. 240 p. illus. 23 cm. $3.50. 2613

Contents: Restoration. Repairs. Removing old finish. Preparing for new finish. Refinishing. Reviving old finishes. Examining and "trade" furniture finishes. More about materials. Tools for the beginner. More hand tools. Sharpening and care of tools. Care and storage of paints and brushes. The home workshop—tools and shop practice. Care of furniture. Furniture. Reference books. [illegible]. Index.

Note: One of the better books on this subject for amateur craftsmen. The restoration and refinishing of old furniture are emphasized, but part of the material is applicable as well to the finishing of new furniture and to the finishing or refinishing of articles of wood other than furniture. Most of the text consists of concise discussions of specific points or detailed directions for specific operations. Many of the illustrations have been made from photographs of refinished antique furniture.

MARGON, LESTER

Construction of American furniture treasures: measured drawings of selected museum pieces with complete information on their construction and reproduction ... 38 full-page plates, 344 detail drawings and more than 40 photographs of the work of the most famous early American cabinetmakers. New York: The Home Craftsman Publishing Corporation, 1949. 167 p. illus. 30 cm. $4.95. 2614

Note: Measured drawings constitute the outstanding feature of this book. As indicated in the title, the furniture depicted is American and all of the pieces illustrated are now in the possession of museums or historic houses. Each piece represented is shown in a photograph, then its dimensions and construction details are shown in one or more pages of drawings. The book is intended for amateur craftsmen and cabinetmakers interested in making replicas of historic furniture. Accompanying the illustrations are detailed directions for construction and finishing of the pieces.

PELTO, B. W.

Furniture making and cabinet work; a handbook. New York: D. Van Nostrand Company, Inc., 1949. 596 p. illus. 24 cm. $6.95. 2615

Contents: Cabinetmaking. Indoor furniture construction. Outdoor furniture. Built-in furniture and conveniences. Furniture [illegible]. Veneers and inlays. Upholstery and seat weaving. Lacquering, repair and refinishing. Finishing. Carved furniture. Principles of interior decoration. Indoor remodeling. Index.

Note: Practical and detailed instructions for the amateur craftsman in the art of constructing a wide variety of indoor and outdoor pieces of furniture. Each project includes dimensioned drawings, a list of materials required, and step-by-step construction methods. The project section is preceded by descriptions of basic woodworking operations and tools. The final chapters, although less detailed than the ones on furniture, provide information on the basic steps in home remodeling and interior decoration.

STANLEY WORKS. STANLEY TOOLS DIVISION

How to work with tools & wood. For the beginner, for the home craftsman, for the handyman, for the homeowner. New Britain, Connecticut: Stanley Tools Division of the Stanley Works, 1957. 151 p. illus. 24 cm. 2616

Contents: All of us can use tools. How to become skillful. Let's make something. Taking it from a working drawing. Finishing up. [illegible] the bench. This will be a bench. And now [illegible]. Sharpening the tools. More about putting the pieces together. Some fancy touches. Getting it ready for use. Things around the house. Index.

Note: A simple, fully illustrated introduction to hand woodworking tools and to such hand operations as planing, sawing, boring, and [illegible]; the making of joints. Basic finishing operations are covered also.

principles rather than upon the examples. While technically forecasting, planning, and control are engineering activities, discussions from the engineering viewpoint are supplemented by brief treatments of the economic and social implications.

MALLICK, RANDOLPH W AND ARMAND T GAUDREAU

Plant layout planning and practice. New York John Wiley & Sons Inc., 1951 391 p. illus. 25 cm. $7 50. 2627

Contents (abridged) Part 1, Approach to plant layout: The role of plant layout in management. Ascertaining the need for relayout. Basis for designing plant layout. Techniques of plant layout engineering. Part 2, Planning the processing departments: Framework of plant layout procedure. Determining the capacities for the design. Analyzing, balancing, and routing the operations. Planning and equipping the work station. Internal transportation of plant material. Part 3, Designing plant service facilities: Receiving, shipping, and warehouse areas. Storerooms and storage facilities. Test rooms, inspection points, and dispatch stations. Maintenance facilities, tool cribs, and sprinkler systems. Power and lighting systems. Planning office layouts. Employee service facilities. Part 4, Justifying the layout project: Buildings for housing the plant layout. Presenting the proposal to the management. Bibliography Index.

Note: An outstanding work on this subject. Well organized, well written, and very generously illustrated, it is designed for practical use by corporation executives and plant engineers. The material is applicable both to the design of new layouts and the redesign of established ones.

MOORE, FRANKLIN G

Production control. New York McGraw Hill Book Company Inc., 1951 455 p. illus. 24 cm. $6.00 2628

Contents: Production control duties. Types of production. Types of production control. Forecasting and estimating. Authority to manufacture. Basic information required for order control. Drawings, drawing numbers, and identification systems. Determining parts and materials requirements in order control. Preparing for production in order control. Initiating production and controlling production in progress with order control. Flow control. Block and load control. Mechanical tabulation. Reproduction of forms and communications systems. Relationships of the production control department with other departments. Value of production control. Cases and problems Bibliography Index.

Note. This introduction to the basic principles and methods of production control is designed for use in college courses in commerce and management. In order to illustrate why certain procedures are followed various techniques and forms employed in industry are described in detail. Numerous flow charts and seventy case studies and related problems are included. The author is Professor of Management at Northwestern University School of Commerce.

TIME AND MOTION STUDY

BARNES, RALPH MOSSER

Motion and time study Third edition. New York John Wiley & Sons Inc., 1949 559 p. illus. 24 cm. $5.50 2629

Contents (abridged) History of motion and time study Extent to which motion and time study may be profitably used. Process analysis. Activity charts—man and machine charts. Operation analysis. Fundamental hand motions. Motion study and micromotion study equipment. Making the motion pictures. Fatigue. The relation of motion and time study to wage incentives. Stop-watch time study—time study equipment—making the time study—determining the rating factor—determining allowances and time standard. Determining time standards from elemental time data and formulas. Determining time standards for die and tool work. Determining time standards for assembly operations. Motion and time study training programs. Appendixes. Bibliography Index.

Note: (4480a) A thorough study of the basic principles and methods of motion and time study It is devoted almost exclusively to measurement techniques and each phase of the subject is well illustrated with case studies drawn from various manufacturing fields. Revisions and changes in this edition are largely based on the author' survey of eighty factories. New chapters on process analysis, gang process charts, activity charts, and machine charts have been added, and numerous action photographs or new included.

CARROLL, PHIL

Timestudy fundamentals for foremen. With a foreword by Glenn Gardiner Second edition. New York McGraw Hill Book Company, Inc. 1951 209 p. illus. $3.00 2630

Contents: What timestudy gives to industry Why you should understand timestudy How to begin timestudy Looking at the job details. How long does it take? How long should it take? How to set consistent element times. What job details repeat? How to set standards. Be sure to explain timestudy Incentive plans explained. You can improve methods. How your job changes. Are you looking ahead? Selected references. Index.

Note A small book written in simple language. Its purpose is to acquaint foremen and supervisors with the basic principles and methods of conducting timestudies. The explanations of how such study is applied and what it can accomplish are given clearly and simply Numerous charts and cartoons help to enliven and clarify the textual material. The first edition was published in 1944. This second edition is an extensive revision. The chapter on incentive plans, in particular has been revised and enlarged, and the bibliography now includes books published since 1944.

MUNDEL MARVIN EVERETT

Motion and time study principles and practice. New York Prentice-Hall, Inc. 1950 457 p. illus. 23 cm. $7.00 2631

Contents (abridged) What motion and time study can accomplish. The human factor. The scope of motion and time study How to start the analysis. Process chart—product analysis—man analysis—combined analysis. Operation charts. Multiple-activity analysis—man and machine charts—multiman charts. Micromotion study Micromotion study and therbligs. Memomotion study Time study—definition of standard time—recording the standard practice—recording the time—time—rating—objective rating—allowances. Synthesized time standards. Applying motion and time study standards. Problems. Bibliography Index.

Note: A textbook for college courses which provides systematic and practical introduction to and treatment of motion and time study The basic principles are presented which underlie all successful motion and time studies, and illustrative examples from many industries and types of work are given in great detail so that the reasoning behind the application of procedures may be seen. The material presented was tested by use in university classes and in in-plant training courses for workers of various levels. A detailed bibliography and 37 pages of problems appear at the end of the book.

SYLVESTER, LAWRENCE ARTHUR

The handbook of advanced time-motion study New York Funk & Wagnalls Company 1950 273 p. illus. 24 cm. $5.00 2632

Contents: Introduction. Part 1, The theory of work and the causes of deviations in rates of production The nature of human work. Work can be measured. The concept of fair day's work. The theory and nature of individual differences. The effects of variable conditions. A summary of theory Part 11, Advanced practice of time-motion engineering: The human side of time-motion study Personal contacts. Tools and equipment. How to take time-motion study Predicting base and standard time values. Standard data versus job time study Maintaining standardized conditions. Administration of the time-motion department. Conclusion: Looking forward. Acknowledgments. Index.

Note The author who is president of management engineering firm, has written this book primarily for graduate industrial engineers and others, such as union stewards, who have professional interests in time-motion studies Human work is regarded as having three components: 1. Mechanical component—Force × distance. 2. Human component pace (rhythm) and skill, etc. 3. Conditional component—posture, light, heat, ventilation, hazards, and interruptions. The basic importance of the human element and of industrial relations is stressed. Examples of the application of the meth-

ods discussed in various industries are given in graphic or tabular form. Statistical interpretations of the various results of time-motion studies are included.

QUALITY CONTROL

BOWKER ALBERT H., AND HENRY P GOODE
Sampling inspection by variables. New York McGraw Hill Book Company, Inc. 1952 216 p. 24 cm. $5 00 2633

Contents. Introduction. General principles of sampling inspection by variables. Properties of the variables plans. Installation of the variables plans. Operation of the variables plans. Plans for use when the standard deviation of the product is known. Procedures for two-sided specification limits. Illustrative applications. The use of control charts in sampling inspection. Construction of sampling plans and standard procedure. The mathematics of sampling inspection by variables. Appendix. Computing techniques and methods of applying the acceptance criteria. Tables and charts. Index.

Note: A manual of inspection plans based on the measurement of variable or variables—a basis of inspection that is in contrast to the system of rejection or acceptance on the basis of specified attributes. Most of the book is devoted to the design, installation, and operation of practical and statistically sound plans. The book is organized along the lines of and complements *Sampling inspection* New York, 1948 (2334)

BUTTERBAUGH GRANT ILLION
A bibliography of statistical quality control supplement. Seattle University of Washington Press, 1951 141 p. 23 cm. Paper $2 00 2634

Contents. Part I, Periodical literature. Part II, Manuals, monographs, pamphlets. Part III, Books. Index of authors. Index of subjects.

Note. A supplement to the author's *Bibliography of statistical quality control* issued by the same publisher in 1946. The original work and the supplement together record 1437 periodical articles, books, and manuals published in the English language. Most of the entries are accompanied by an annotation several lines in length. A few of the entries have very short annotations and some are not annotated.

FEIGENBAUM ARMAND VALLIN
Quality control principles, practice, and administration New York McGraw Hill Book Company Inc., 1951 443 p illus. 24 cm. (Industrial organization and management series, L. C. Morrow consulting editor) $7.50 2635

Contents The principles of quality control Part I, Quality control—tool of management What is "quality control"? What are the factors in controlling quality? What are the jobs of quality control? What the organization for quality control? Part II, The statistical point of view Frequency distributions. Control charts. Sampling tables Special methods Part III, Applying quality control in the plant. New-design control Incoming-material control Product control. Special process studies Part IV Introducing quality control into the plant Selling the quality-control program. Summary of modern quality control Index.

Note An overall presentation of quality control from the management and administrative viewpoint It is primarily practical book, based on experience with quality control in numerous industrial firms during World War and after. The necessity for keeping the quality control program within bounds so that it does not cost more in time or money than its results justify is emphasized A wide variety of practical procedures, relating not only to inspection but to record keeping and follow-through, is described The author is secretary of the Quality Control Co-ordinating Committee of the General Electric Company

GRANT EUGENE LODEWICK
Statistical quality control. Second edition. New York McGraw Hill Book Company Inc., 1952 557 p 24 cm. (McGraw Hill industrial organization and management series, L. C. Morrow, consulting editor) $6.50 2636

Contents (abridged) Part one, What will statistical quality control do? Objectives of statistical quality control. Some representative applications. Part two, The Shewhart control chart for variables. Some fundamental statistical concepts. Why the control chart works—example of process in control—examples of processes out of control. Directions for simple $\bar{X}$ and R charts. The selection of rational subgroups. Part three, Other Shewhart control charts. Some fundamentals of the theory of probability The control chart for fraction defective. The control chart for defects. Part four, A statistical approach to acceptance procedures. Some statistical aspects of tolerances. Some fundamental concepts in acceptance sampling. Acceptance sampling by attributes. Acceptance sampling by variables. Part five, Making statistical quality control work Some cost aspects of quality decisions. Organization for statistical quality control. Appendixes: Glossary of symbols. Bibliography Tables. Name index. Subject index.

Note: (2226) A standard exposition of the theory and methods that form the basis for quality control procedures. It intended for persons such as plant executives and industrial engineers who expect to make practical use of control charts and sampling plans. The applicability of quality control to large variety of manufacturing operations is demonstrated, and analyses of actual case histories in industry are included. In this edition two chapters have been rewritten, and the number of problems for the reader to solve has been much increased. Answers have been given to some of the problems for the benefit of persons studying the book at home. Relatively minor changes are in various other parts. The author is Professor of Economics of Engineering at Stanford University

HEIDE, JOHN D
Industrial process control by statistical methods. New York McGraw Hill Book Company Inc., 1952 297 p. illus. 24 cm. $6 00 2637

Contents. Introduction. Presentation of data. Process frequency distributions. Control charts. Limit lines. Operating specifications. Technical problems. Study of process data. Factory installation. Practical program aids. Factory interpretation of charts. Organization and administration. Quality reporting and quality rating. Evaluation of test procedures and test results. Appendixes. Index.

Note. A practical book on statistical quality control written primarily for personnel in manufacturing establishments who will be directly concerned with the use or supervision of statistical quality control procedures. Quality control is correctly presented as logical basis for mass production. The reader is first introduced to its statistical bases and to the design of control charts. In the later chapters various practical steps in installing quality control program and using it in the factory are treated. The author holds the position of Industrial-Statistical Analyst with the United States Rubber Company

JURAN JOSEPH M , editor
Quality-control handbook. New York McGraw Hill Book Company Inc., 1951 800 p. illus. 24 cm. (McGraw Hill industrial organization and management series, L. C. Morrow consulting editor) $12 00 2638

Contents Economics of quality by J. M. Juran. Specification of quality by C. R. [illegible] quality by J M. Juran. Organizing for quality by [illegible] Introducing statistical quality control in [illegible] plant, by D. [illegible] Control of quality [illegible]. Acceptance of quality by J M. Juran. Statistical [illegible] by J M. Juran. Assurance of quality by J. M. Juran. Paper work in methods in the quality function, by J W Enell. Applications of electric accounting machines to quality control, by International Business Machines Corporation. Quality control in the chemical process industries, by J. C. [illegible]. Quality control of textile production, by [illegible] Quality control in aircraft manufacture, by C. A. Bicking. Quality control of electron tubes, by Sylvania [illegible] by J O. Rutherford Quality [illegible] Electric Products, Inc. Vendor inspection, by D. [illegible] Quality control in screw-machine operations, by L. A. [illegible] Appendixes Glossary of symbols. Tables and charts. Index.

Note: It is important to notice that this book deals with the whole subject of quality control rather than with the statistical

aspects only However, the latter are adequately treated, not only in the chapter on statistical methods but in sections in other chapters. The book is intended for executives and others in industry who are directly concerned with the control of quality of manufactured products and with organizing and administering quality control programs in manufacturing plants. It is practical, direct treatment, full of useful information for its intended readers.

SCHROCK, EDWARD M

Quality control and statistical methods New York Reinhold Publishing Company 1950 213 p. illus. 24 cm. $5 00 2639

Contents (abridged) What quality control and statistical methods have to offer. Case histories. The meaning of numbers. Summarization of data. Pictorial presentation of data. The quality control chart to identify assignable causes. Modified control chart limits. Use of control chart when known trend exists. Quality control by limit gauges. Use of the variables control chart as basis for reducing volume of inspection. Binomial and Poisson distributions. Acceptance sampling. Sequential analysis. Least squares and correlation. Glossary Suggestions for further reading and reference. Index.

Note. A practical introduction. The topics included have been well selected, the discussions of them are short and explicit, and the relationships between quality control techniques and the economical production of satisfactory products are made clear. About 30 pages of the book are taken up with series of reference tables for number of defectives. The book is suitable for factory workers and supervisory personnel who are making their first contacts with quality control.

SAFETY ENGINEERING

ASSOCIATED GENERAL CONTRACTORS OF AMERICA INC.

Manual of accident prevention in construction. Fourth revised edition. Washington, D C. The Associated General Contractors of America, Inc., 1952 257 p. illus. 24 cm. $3.00 2640

Contents: Introduction. Accident prevention organization. Housekeeping. Sanitation. First aid. Demolition. Arc welding. Gas welding and cutting. Flammable gases and liquids. Handling and storage of materials. Excavation. Shoring. Barricades. Explosives. Pile driving. Form construction and concrete placement. Hoists, cranes, and derricks. Steel erection. Masonry Scaffolding. Ladders. Power saws. Hand tools. Road and street construction. Motor graders, bulldozers and tractors. Conveyors and cableways. Equipment upkeep. Motor trucks. Garages and repair shops. Tunnels. Shafts. Compressed air work. Boilers. Unfired pressure vessels. Railroad construction. Quarries and gravel pits. Laying pipe lines. Boats and barges. Temporary electrical installations. Fire hazards and prevention. Protective clothing. Camp housing and sanitation. Occupational diseases. Inspection. Reference tables. Alphabetical index.

Note: A practical and clearly presented guide to safe ways of performing construction work. The text is supplemented by numerous photographs, diagrams, and specifications and throughout the book emphasis is placed on the importance of educational work and of proper organization and methods. This edition includes new sections on housekeeping, welding, power saws, flammable gases and liquids, bulldozers and tractors, and boats and barges. Reference tables of weights and safe working loads are included.

GRAY DWIGHT E. AND JOHN H. MARTENS

Radiation monitoring in atomic defense. New York D Van Nostrand Company Inc. 1951 122 p. illus. 21 cm. $2.50 2641

Contents: Part one, Background information. What is atomic energy? What is nuclear radiation? What kinds of hazards do atomic explosions produce? What radiation hazards result immediately from an atomic explosion? What radiation hazards continue after an atomic explosion? What basic protective measures can be taken against atomic explosions? How are nuclear radiations detected and measured? Part two, Instruments and equipment. Basic considerations. The Geiger counter survey meter. The ionization chamber survey meter. The proportional alpha counter. Pocket chambers and dosimeters. Film badge dosimeters. The AEC emergency monitoring kit. Future defense monitoring instruments. Bibliography Index.

Note: A short, clearly written non-specialist's book on the detection and measurement of dangerous radioactive radiation and on the instruments which are used for such detection and measurement. It is addressed primarily to civil defense personnel whose duties will include the protection of others from dangerous radiation in times of emergency It should be of interest also to laboratory workers who handle radioactive materials and to safety personnel in industrial establishments where use is made of such materials.

HEINRICH HERBERT WILLIAM

Industrial accident prevention a scientific approach. Third edition. New York Mc Graw Hill Book Company Inc., 1950 470 p. illus. 24 cm $6.50 2642

Contents: Principles of accident prevention. Basic philosophy of accident prevention. Safety organization—first aid and hospital—creating and maintaining interest. Facts and fact finding. Accident analysis. Selection of remedy Application of remedy—corrective action. Machine, prime-mover and power-transmission guarding. Process and procedure revision. Personal protective devices. Illumination and vision. Occupational disease. Motor-vehicle fleets. Safety psychology Fatigue. Education. Formula for supervision. Accident statistics. Summary Appendixes: Chronology of industrial accident prevention. Background of industrial safety Standards for mechanical guarding. Illumination of industrial interiors. Causes of compensated accidents. Relation of age to industrial injuries. Bibliography Index.

Note: (4701) In this text for students and safety engineers emphasis is placed on the basic principles and methods of accident prevention, rather than on detailed discussions of specific safety measures. Descriptions of protective devices and case histories are included, but only to illustrate how an accident situation may be analyzed and corrected. On the other hand, administrative aspects, such as methods of persuading top management to institute or supplement the safety program in plant, are covered in some detail. The major changes evident in this revision include newly added chapters on motor-vehicle fleets, solving supervisory problems, personal protective devices, and selection on safety education courses. Books published since 1941 have been added to the bibliography

NATIONAL SAFETY COUNCIL, INCORPORATED

Accident prevention manual for industrial operations. Second edition. Chicago National Safety Council, Inc., 1951 793 p. illus. 23 cm. $18.00 2643

Contents: Permanent structures and plant layout. Maintenance and maintenance crews. Boilers. Pressure vessels. Refrigerating equipment. Principles of guarding and transmission guards. Power presses. Metalworking machinery and abrasive wheels. Woodworking machinery Guarding special equipment. Storage and manual handling of material. Power handling of material. Hand and portable power tools. Welding and cutting. Electrical hazards. Flammable liquids. Fire prevention. Fire extinguishment and control. Personal protective equipment. Motor transportation. Industrial health engineering. Industrial poisons. Medical services and table of chemical hazards. Safety organization and training. Accident records. The safety man's resources. Index.

Note: (3343*) A guide and reference book of principles and good practices, written for safety engineers and foremen and intended for use in conjunction with the technical publications on specific safety problems issued by the National Safety Council. In this edition the new sections are those covering maintenance, boilers, pressure vessels, refrigerating equipment, welding, industrial poisons, industrial health engineering, and medical services. The book has been reorganized so that the former second and third parts, covering construction and demolition and permanent equipment and facilities, have been absorbed into the various sections of the book. A feature is the new final section "The safety man's resources, which is compendium of information concerning the work and publications of the various trade associations, public agencies, and private service organizations in the field of safety engineering.

SAX NEWTON IRVING, AND OTHERS

Handbook of dangerous materials Assisted by M. J O'Herin and W W Schultz. New York Reinhold Publishing Corporation, 1951 848 p. 26 cm. $15.00. 2644

Contents: References. List of abbreviations and symbols. General chemicals. Explosives. Fungus diseases and fungicides. Radiation and radiation hazards. Shipping regulations. General index.

Note: A work of interest to factory managers, safety personnel, and industrial physicians. The first part is an alphabetically arranged compilation of materials that are hazardous to human beings because they are poisonous, cause allergic reactions, or are explosive. The following points are covered for most of the materials included: hazardous properties, storage and handling, synonyms, chemical formula, chemical and physical properties, shipping regulations. The writeups of many of the materials include one or more literature references, but literature references are not always given. The section on fungus diseases includes much information on diagnosis and treatment. The section on shipping regulations is a reprint without editorial comment of the current regulations pertaining to explosive and hazardous materials of the Interstate Commerce Commission. The senior author is a toxicologist associated with the General Electric Company at Schenectady New York.

AGRICULTURE

GENERAL

ADVANCES IN AGRONOMY Prepared under the auspices of the American Society of Agronomy Volume I. Edited by A. G. Norman. New York Academic Press, Inc., 1949 439 p. illus. 24 cm. $8.50 2645

Contents: Plant growth on saline and alkali soils, by H. E. Hayward and C. H. Wadleigh. New fertilizers and fertilizer practices, by R. J. Jones and H. T. Rogers. Soybeans, by M. G. Weiss. The clay minerals in soils, by J E. Gieseking. Alfalfa improvement, by W J White. Soil microorganisms and plant roots, by F E. Clark. Weed control, by A. S. Crafts and W A. Harvey Boron in soils and crops, by K. C. Berger Potato production, by O. Smith. Fixation of soil phosphorus, by L. A. Dean. Author index. Subject index.

—— Volume II. Edited by A. G Norman. New York Academic Press, Inc. 1950 407 p. illus. 24 cm. $8 50. 2646

Contents: Cotton, by J E. Adams. Soil nitrogen, by L. E. Ensminger and R. W Pearson. Vegetable production, by J. E. Knott and O. A. Lorenz. Prairie soils of the upper Mississippi valley by G. D. Smith and others. Ladino clover by G. H. Ahlgren and R. F Fuelleman. The control of soil water by E. C. Childs and N. Collis-George. Preservation and storage of forage crops, by R. E. Hodgson and W K. Kennedy The reclamation of coal mine spoils, by H. Kohnke. Irrigated pastures, by W Keller and M. L. Peterson. Author index. Subject index.

—— Volume III. Edited by A. G Norman. New York. Academic Press, Inc., 1951 361 p. illus. 24 cm. $8.50 2647

Contents: The subsoil, by E. Winters and R. W Simonson. The management of alfalfa meadows, by C. J. Willard. The chemistry of soil potassium, by R. F Reitemeier. The changing pattern of agriculture in England and Wales, by J. A. McMillan. The adaptability and breeding of suitable grasses for the Southeastern states, by G. W Burton. Chemical treatment of the soil for nematode control, by A. L. Taylor. Problems and progress of soil conservation in the United States, by H. J. Harper Irrigation, agriculture and soil research in the United States, by R. O. Parks. Author index. Subject index.

—— Volume IV Edited by A. G Norman. New York. Academic Press Inc., 1952 416 p. illus. 24 cm. $8.50 2648

Contents: Grassland agronomy in Australia, by H. C. Trumble. Type of soil colloid and the mineral nutrition of plants, by A. Mehlich and N. T Coleman. The physiological basis of variation in yield, by D. J. Watson. Copper in nutrition, by F A. Gilbert. Ecological and physiological factors in compounding forage seed mixtures, by R. E. Blaser and others. Soil manganese in relation to plant growth, by E. G. Mulder and F C. Gerretsen. Atomic energy and the plant sciences, by N E. Tolbert and P B Pearson. Vegetation control on industrial lands, by K. C. Barrons. Soil and the growth of forests, by T S. Coile. Author index. Subject index.

Note: A series of annual volumes designed to survey and review the latest developments in the field of plant nutrition, growth, management, and utilization. Each volume consists of individual papers prepared by specialists, most of whom are associated with the agriculture departments of leading universities in this country and Europe. The selection of papers indicates broad interpretation of the term "agronomy" but throughout the series the basic theme is soil-crop relationships. Each paper includes an extensive list of references keyed to the textual material.

BEYER, GLENN H.

Farm housing in the Northeast. A survey of facilities, activities possessions, and preferences of families on owner-operated farms. The factual findings by Glenn H. Beyer with the assistance of the Northeastern Farm Housing Technical Committee. Ithaca, New York Cornell University Press 1949 458 p. illus. 24 cm. $4.50 2649

Contents (abridged) Introduction and background: Methodology Geographic distribution and economic groups of families. Part I, The present pattern of farmhouses: Age of dwelling units. Type of construction. Size of house. Equipment and furniture. Part II, Household activities: Food preparation and preservation. Laundry work. Sewing. Entertaining. Part III, Household inventories: Food. Clothing and sewing materials. Bedding and household linens. Need for additional storage space. Part IV, General housing preferences The dwelling unit. Equipment and furniture. Household activities. Part Summary Glossary Index.

Note: An analytical presentation of the results of present housing facilities and housing needs of families living on farms in the states of Connecticut, Maine, Massachusetts, New Jersey New York, Pennsylvania, Rhode Island, and West Virginia. The data were gathered largely by personal interviews. They throw light not only on housing requirements but also on household activities on farms. For example, information is included on the kinds and quantities of foodstuffs preserved in year The book is one product of project which has as its ultimate goal the development of functional house plans suited to the needs of farm families in the region covered.

CASTETTER, EDWARD FRANKLIN AND WILLIS H. BELL

Yuman Indian agriculture primitive subsistence on the lower Colorado and Gila rivers. New Mexico The University of New Mexico Press, 1951 274 p illus. 24 cm. $6.00. 2650

Contents: The country The people. General basis of subsistence. Agricultural implements. Cultivated crops. Agricultural techniques. Semicultivation of seed plants. Wild plant and animal products. Rituals and group activities. Summary discussion, and interpretation. Bibliography Index.

Note: ([illegible]) A complementary work to the authors' *Pima and Papago Indian agriculture*, Albuquerque, 1942. Agricultural crops and practices are the main topics, but these are described in their environmental and social setting. The first two chapters of the book are basic and account for approximately one quarter of the total space. Agricultural practices are described in all the available detail. These include various techniques of food preservation; for example, methods of preparing pumpkins for indefinite storage. The book is of interest to students of anthropology as well as to readers interested in the history of agriculture.

FULMER, JOHN LEONARD

Agricultural progress in the cotton belt since 1920 Chapel Hill The University of North Carolina Press 1950 236 p illus. 23 cm. $3.50 2651

Contents: Trends in the cotton belt. Regional trends. Farm organizational changes. Mechanization. The mechanical harvesting of cotton. Urbanization and agriculture. Other dynamic factors influencing southern agriculture. Income shifts. Summary and conclusions. Statistical appendix. Selected bibliography Index.

Note The extensive changes in the last three decades in the agriculture of the southern states of the United States of America where cotton is the traditional crop are detailed in this volume. The main viewpoint of the book is economic and much of the information is presented in the form of statistical tables. However, the economic aspects are directly related to changes in agricultural practices, particularly those changes which resulted in the decline of importance of cotton as a cash crop. The chapter on the mechanical harvesting of cotton gives a useful summary of experience with mechanical pickers and strippers. The book is thoroughly documented throughout.

HEDRICK ULYSSES PRENTISS

A history of horticulture in America to 1860 New York Oxford University Press, 1950 551 p. illus. 23 cm $7.50 2652

Contents: Part I Indian gardens. Colonial New England. Colonial New York. The colonies on the Delaware. Colonies on Chesapeake Bay. The South Atlantic colonies. Part II Post-Revolution in the north. Post Revolution in the south. The North Atlantic states, 1800–1830. The North Atlantic states, 1830–1860. The South Atlantic states, 1800–1860. The North-Central states. The South-Central and Gulf states. The Far West. Part III Botanic explorers and botanic gardens, 1800–1860. The dawn of plant breeding. Horticultural literature, 1700–1860. Horticultural societies, 1790–1860. Bibliography. Index.

Note The first and only volume on the subject indicated by its title, this book was written by the late director emeritus of the New York State Agricultural Experiment Station. As sources the author consulted official documents, botanies, agricultural books, magazines, and newspapers of the period, as well as books of travel. Any person concerned with gardening, fruit growing, or viticulture who wishes to know something of the early history of these activities in the thirteen colonies and the early Republic will find the volume of interest.

HOUK, IVAN E

Irrigation engineering. Volume I Agricultural and hydrological phases. New York John Wiley & Sons Inc. 1951 545 p illus. 24 cm. $9 75 2653

Contents: Introduction. Irrigation soils. Soil fertility. Moisture in irrigation soils. Soil-moisture movements. Climatic factors. Runoff and streamflow. Snow melting and runoff forecasting. Evaporation from water surfaces. Land evaporation and transpiration. Irrigation and water requirements. Losses and waste of irrigation water. Irrigation water supplies. Quality of irrigation water. Irrigation of saline and alkali soils. Irrigation preparations and procedures. Name index. Subject index.

Note A comprehensive and detailed treatise. It covers not only the broad aspects as named in the chapter titles, but also the subtopics such as the proportion of rainfall intercepted by the foliage of plants. The published literature has been skillfully digested, and statements in the text are keyed to the lists of references which accompany the chapters. Numerous tables of data such as "Permissible velocities in canals excavated through different soils" are included. The writing is on a professional level and the work is suitable for advanced students of agricultural engineering, practicing irrigation engineers, and other technical personnel concerned with irrigation. The second volume of the work will discuss the planning and construction of irrigation projects.

IOWA STATE COLLEGE

Midwest farm handbook. Second edition By members of the staff Iowa State College. Ames Iowa State College Press 1951 280 p. illus. 24 cm. $2 50. 2654

Contents: Animal husbandry. Dairy husbandry. Livestock disease prevention. Dairy industry. Poultry. Poultry diseases. Agricultural engineering. Agronomy. Weed control. Plant disease control. Seed analysis. Seed treatment. Pest control. Business end of farming. Beekeeping. Forestry. Landscape architecture. Horticulture. Measurements. Weather. Index.

Note A reference book of practical information. The presentation of many topics is very condensed but the main points are covered. In most instances brevity has been achieved only by including the most useful facts or describing the most effective method to the neglect of others. The discussion of some topics such as taxes are strictly local in application, but a considerable part of the book is applicable to farming in any region where climate and crops resemble those of Iowa.

ISRAELSEN, ORSON WINSO

Irrigation principles and practices. Second edition New York John Wiley & Sons, Inc., 1950 405 p. illus. 23 cm. (The Wiley agricultural engineering series edited by J Brownlee Davidson) $6.50. 2655

Contents: Progress and problems. Sources and storage of irrigation water. Measurement of irrigation water. Conveyance of irrigation water. Pumping water for irrigation. Irrigation methods. Farm irrigation implements and structures. Basic soil and water relations. Storage of water in unsaturated soils. The flow of water in soils. Saline and alkali soils. Drainage of irrigated lands. Time of irrigation. Consumptive use of water, by H. F. Blaney and O. W. Israelsen. Irrigation of cereals, forage, and root crops. Irrigation of orchards. Irrigation in humid regions. Social and administrative aspects of irrigation, by J. H. Maughan. Appendixes: Problems and questions. References. Index.

Note. (4119) The revised edition of this textbook for college and university students covers the same field as the first edition, but the work has been changed and improved in the light of 18 years of additional study and experience. Some chapters have been entirely rewritten and others contain major changes. A new chapter is included on the drainage of irrigated lands. The references have been brought up to date and are now grouped at the end of the book. The publication is of value to farmers concerned with large-scale irrigation problems and to agronomists, agricultural engineers, and civil engineers, as well as to students. The volume includes a folding map of the United States to show mean annual precipitation, red lines and figures indicating average annual precipitation in depth in inches.

JUSTICE O L. editor

Manual for testing agricultural and vegetable seeds. United States Department of Agriculture Production and Marketing Administration in cooperation with the Bureau of Plant Industry Soils and Agricultural Engineering. Most of the work on this manual was performed under a project authorized by the Research and Marketing Act of 1946. Washington, D C. Government Printing Office, 1952 440 p illus. 24 cm. (United States Department of Agriculture. Agriculture handbook no 30) $4 00. 2656

Contents Introduction. Seed sampling and testing equipment. Obtaining the seed sample. Procedures for determining purity composition. Application of purity procedures to specific groups of seeds. Procedures for determining germination. Application of germination procedures to specific groups. Examination for noxious-weed seeds. Origin of seeds. Testing for trueness of variety. Testing for moisture. Tolerances. Calculations, records, and reports. Identification of seeds. Development, structure, and hereditary characteristics of seeds. Physiology of seeds. Pathological considerations in seed testing. Literature cited. Selected references. Available publications on seed testing. Glossary. Appendix. List of botanical names. List of plant names. List of botanical and common names. Index.

Note. A book of instructions for seed technologists and laboratory workers showing how to conduct laboratory tests and presenting other background information of a practical nature. Procedures are given for the testing of all kinds of agricultural and vegetable seeds, domestic and imported. A central section of 34 plates gives drawings of the seeds of 735 species of grasses, grains, vegetables, and flowers. The manual supersedes the Department's Miscellaneous publication no. 437 *Testing farm seeds in home and school*, published in 1941.

MALONE CARL C

How to make your farm pay a practical guide for Midwest farm operators. Ames, Iowa The Iowa State College Press, 1950. 371 p. illus. 24 cm. $3 75 2657

Contents. Who should farm. Where should you farm. Money-making—the management problem. Choosing the type and size of farm. Getting started. Laying out the cropping system. Fitting livestock into the farm plan. Making the most from your livestock. Putting the farm plan together. When you go to market. Checking up on yourself. Helpers—public and private. Around the family table. Index.

Note: A reliable introduction to sound farm management practices for farms in the Corn Belt and adjacent farming regions in the area of the United States known as the Midwest. The region includes areas where several main types of farming are practiced including the growing of corn, wheat, beef cattle and hog raising, dairying, and "mixed" farming. The main theme of the book is that farming is business; and farm management practices for the main types of farming, corn, cattle raising, and hog raising are discussed at length with shorter discussions of other types of farming and crops. Record-keeping is emphasized and sample forms are included. The author is faculty member of Iowa State College.

REICK FRANKLIN MERING

The 4-H story, a history of 4 H club work. Ames, Iowa The Iowa State College Press 1951 308 p. illus. 24 cm. $3 00. 2658

Contents (abridged) Years of the valiant pioneers. The government sponsors corn club. Corn clubs take hold in the South. Canning clubs get under way. The cloverleaf goes national. Club work grows in the North and West. Congress passes the Smith Lever act. Club work with Negroes expands. The national committee is formed. Early days of the club congress. National camp established. 4 H comes the man. New legislation for extension. War and the Bankhead Flannagan act. Summing up. Bibliography Index.

Note: The 4-H clubs, whose origin and development are recounted in this book, have been major influence in the education of young people for better living and for leadership in rural life. They have reached their widest development in the United States of America. This book is devoted mainly to the U. S. A., but there is some information on comparable organizations in other countries. It is written in simple style and is of potential interest not only to persons directly concerned with the organization and guidance of 4-H clubs but also to persons with more general interests in rural life and agricultural betterment. There is bibliography.

ROE, HARRY BURGESS

Moisture requirements in agriculture. Farm irrigation. New York McGraw Hill Book Company Inc., 1950 413 p illus 24 cm. (McGraw Hill publications in agricultural engineering, Quincy C. Ayres consulting editor) $6.00. 2659

Contents: General considerations. Sources and disposition of soil moisture. Flow and measurement of water. Interrelations of irrigation and drainage. Fundamental principles of irrigation and problems of agriculture under it. Time of irrigation. Use of water in irrigation. Irrigation methods. Irrigation structures and works for the farm. Pumping in irrigation. Irrigation of specified crops. Irrigation farming. Legislative and administrative features of irrigation. Supplemental irrigation in humid regions. Literature cited. Literature consulted but not specifically cited. Index.

Note: An introductory but inclusive work in which particular attention is given to agriculture and farm irrigation in the United States of America west of the Mississippi River. It covers both the engineering and the agricultural phases of the subject. The author explains in elementary terms the hydraulics of mechanical distribution of water within farming areas and on individual farms and correlates this explanation with modern soil science. A feature of the book is its detailed presentation of the water requirements of different types of crops as determined by recent experiments and scientific research and corresponding presentation of the methods whereby these requirements may best be met. The book is suitable both as textbook for colleges training engineers in agriculture and as practical guidebook for farmers, technicians, and engineers directly concerned with problems of irrigation.

VAUGHAN LAWRENCE MOORE AND LOWELL S. HARDIN

Farm work simplification. This publication is jointly sponsored by the Work Simplification Committees of the American Farm Economic Association and the American Society of Agricultural Engineers. New York John Wiley & Sons Inc., 1949 145 p. illus. 22 cm. $2 96 2660

Contents: What farm work simplification is. What savings can be made. The principles of effective work. Basic economy of labor. Simplifying handwork. Reducing chore travel. Using equipment and work crews effectively. Principles may be applied to all work. How results may be used. Research in work simplification. How to organize and conduct study. Four types of analysis. Case studies of individual farms. Self-analysis by farmers. Training in work simplification. Short courses for in service training. A sample classroom demonstration. High-school and college instruction. Index.

Note: A short, well-organized book which is devoted primarily to practical ways of simplifying farm work. New methods described are based upon actual experiences of persons working in the field at state agricultural colleges.

SOILS AND FERTILIZERS

KELLEY WALTER PEARSON

Alkali soils their formation, properties and reclamation. New York Reinhold Publishing Corporation 1951 176 p. illus. 24 cm. $5.50 2661

Contents. Introduction. Origin and accumulation of salts in soils. Effects of salts and soils. Soluble salts and exchangeable bases of alkali soils. Formation of sodium carbonate and the evolution of alkali soils. Irrigation in relation to alkali soils. Alkali soils in relation to plant growth. Reclamation of alkali soils. Selected bibliography Index.

Note. The control of alkalinity in soils is fundamentally chemical problem, and this book deals almost entirely with the chemical aspects. It is of interest to chemists doing laboratory research on the problems of alkalinity and also to soil chemists and agronomists working directly with soil reclamation or irrigated agriculture. The author is Professor Emeritus of Soil Chemistry at the University of California.

KELLOGG CHARLES EDWIN

Our garden soils. New York The Macmillan Company 1952 232 p. illus. 22 cm. $4.00 2662

Contents: Natural soils. What place? The garden needs good skeleton. Organic matter: the gardener's chair. Plenty of well-behaved water. Soil acidity and how to change it. Balancing the plant nutrients. More about lawns and grades. Starting plants and moving them. Planning the garden. Appendices. Soil maps. Some soil preferences of selected plants. Planting suggestions and yields of selected vegetables. For further reading. Index.

Note. A handbook about garden soils for the amateur gardener written in non technical language by the Soil Survey Chief of the U. S. Department of Agriculture. The book will be equally useful to those who wish to adapt their soils to certain kinds of plants and to those who wish to know what kinds of plants will grow best on the soils they have. The author tells how to determine soils types, how to maintain proper amounts of organic matter and moisture, how to control soil acidity and how to balance plant nutrients. The appendices contain much useful information including lists of soil preferences by genera for vegetables, herbs, small fruits, fruit trees, perennial and annual flowers, shrubs, vines, ground covers, bulbs, and ferns.

LYON THOMAS LYTTLETON AND OTHERS

The nature and properties of soils. A college text of edaphology By T Lyttleton Lyon, Harry O Buckman, and Nyle C. Brady Fifth edition. Revised by Harry O Buckman and Nyle C. Brady New York The Macmillan Company 1952 591 p. illus. (part col d) 24 cm. $5 75 2663

Contents: The soil in perspective. The supply and availability of plant nutrients in mineral soils. Some important physical properties of mineral soils. Soil colloids their nature and practical significance. The organisms of the soil. The organic matter of mineral soils. Forms of soil water their movement, and their plant relationships. Vapor losses of soil moisture and their regulation. Liquid losses of soil water and their control Soil air and soil temperature. The origin, nature, and classification of parent materials. Soil formation, classification and survey. Organic soils—nature, properties, and utilization. The soil reaction soil acidity and alkalinity Lime and

its soil-plant relationships. The nitrogen economy of soils. The supply and availability of phosphorus and potassium. Fertilizers and fertilizer management. Farm manure and green manure. The fertility management of mineral soils. Index.

Note: (4745) In this standard work the nature and properties of soils are covered from a scientific standpoint and this knowledge is related to the maintenance of good soil conditions in agriculture. The fourth edition was published in 1943. In this edition all except five of the chapters have been either drastically revised or almost wholly rewritten. Some of the material, such as the chapters on soil water, soil colloids, and soil structure, has been recast at the simpler level. The number of illustrations has been more than doubled. Also revised and brought up to date are the bibliographical references, which are given in footnotes.

MILLAR, CHARLES ERNEST, AND L. M. TURK

Fundamentals of soil science. Second edition. New York, John Wiley & Sons, Inc., 1951. 510 p. illus. (part col'd) 24 cm. $5.50 2664

Contents. Materials for soil development. Processes of soil development. *Physical* properties of soils. Classification of soils. Chemical properties of soils. Soil reaction. Lime and its use. Soil moisture. Soil organisms—kinds, numbers, activities, and relation to soil productivity. Soil organic matter. Cover and green-manure crops. Farm manures. Nutrient requirement of plants. Fertilizers and fertilizer materials. Fertilizer practices. Conserving soil. Soil fertility maintenance and productivity rating of soil. Soils and agriculture of arid regions. Irrigation. Soil resources. Acreage of farmland in the United States. Acreage of arable land and land requirements. Land policies of the United States. Glossary. Index.

Note: (4747) An inclusive introduction from the agricultural viewpoint. The authors are Professors of Soil Science at Michigan State College. The first edition was published in 1943. In this edition special attention is given to the advances in fundamental knowledge since then. The treatment of the chemical properties of soils and the formation and classification of soils has been revised and expanded. However, the special chapters on *truck* and *lawn soils* which are included in the first edition have been dropped.

SHAW, BYRON T., editor

Soil physical conditions and plant growth. Compiled by the Joint Committee on Soil Tilth, American Society of Agronomy [and] American Society of Agricultural Engineers. New York, Academic Press Inc., 1952. 491 p. illus. 24 cm. (Agronomy; a series of monographs prepared under the auspices of the American Society of Agronomy. Volume II) $8.80 2665

Contents: Soil as a physical system, by L. T. Alexander and H. E. Middleton. Mechanical impedance and plant growth, by J. F. Lutz. Soil water and plant growth, by L. A. Richards and C. H. Wadleigh. Soil aeration and plant growth, by M. B. Russell. Soil temperature and plant growth, by S. J. Richards and others. Epilogue, by B. T. Shaw. Index.

Note: This work is the result of a planned effort to prepare a critical statement of the current knowledge of the relationships between plant growth and soil physical conditions including not only the mechanical conditions of soil but also water content, aeration, temperature, etc. The chapters are based on literature surveys and are accompanied by extensive bibliographies. The authors are leaders in soil research associated with colleges of agriculture and government research agencies. The book is addressed primarily to graduate scientists, agricultural engineers, and other persons with similar scientific backgrounds and interests in basic knowledge of agricultural soils.

THORNE, DAVID WYNNE, AND H. B. PETERSON

Irrigated soils, their fertility and management. Philadelphia, The Blakiston Company, 1949. 288 p. illus. 26 cm. $5.50 2666

Contents (abridged): Problems of irrigated regions. Soils of arid regions. Soil, water and plant relations. Plant relations to saline and alkali soils. Evaluating land for irrigation. Source and quality of irrigation water. Measuring irrigation water. Irrigation practice for various crops. Effects of irrigation on soil characteristics. Drainage. Reclamation and management of saline and alkali soils. Control of the physical properties of soil. Control of the biological properties of soil. Maintaining organic matter in soil. Minerals and plant growth. Maintaining available nitrogen in soil. Maintaining available phosphorus in soil. Potassium. Mixed fertilizers. Principles of fertilizer practice. Soil management in fruit production. Special problems in vegetable crop production. Glossary. Appendix. Index of authors. Subject index.

Note: A guide to the principles and practice of irrigation agriculture, written by two professors at the Utah State Agricultural College. Emphasis throughout is upon the soil management problems of irrigation rather than upon the engineering problems. The authors assume that the reader has an elementary knowledge of botany, chemistry, mathematics, and physics, and that he is familiar with such concepts as pH, base exchange, and the physical properties of soil. Agricultural practices on irrigated lands throughout the world, as well as in western United States, are covered. Each chapter is concluded by a bibliography.

UNITED STATES. DEPARTMENT OF AGRICULTURE. SOIL SURVEY STAFF

Soil survey manual. By Soil Survey Staff, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture. Washington, D. C., Government Printing Office, 1951. 503 p. illus. (part col'd) 24 cm. (United States. Department of Agriculture. Handbook no. 18) $3.00. 2667

Contents: Soil and landscape. Character of soil maps and reports. Purpose of soil maps and reports. Preparation for field work. Plotting and assembly of field data. Examination and description of soils in the field. Parent materials of soils. Land form, relief and drainage. Identification and nomenclature of soil horizons. Soil color. Soil texture, coarse fragments, stoniness and rockiness. Soil structure. Soil consistence. Soil reaction. Special formations in soil profiles. Organic matter and roots. Accelerated soil erosion. Vegetation. Land use. Units of soil classification and mapping. The soil mapping legend. Plotting soil boundaries in the field. Collection and examination of soil samples. Estimation and mapping of salts and alkali in the soil. Yield predictions and soil management practices. Soil correlation and inspection. Soil grouping on the map. The soil survey report. Soil taxonomy and mapping. General bibliography. Special bibliography of soil surveys. Appendixes: Map preparation with the plane table. Map preparation with compass traverse. Notes on map compilation and reproduction. Sample descriptions of soil series. Guide to map scales. Index.

Note: A guide and reference book for soil scientists engaged in soil classification and mapping. It covers methods and problems of making and interpreting detailed basic soil surveys in the United States and territories. The work is a revision and enlargement of U. S. Department of Agriculture Miscellaneous publication No. 274, *Soil survey manual*, by Charles E. Kellogg, issued September 1937 and supersedes it.

WAKSMAN, SELMAN ABRAHAM

Soil microbiology. New York, John Wiley & Sons, Inc., 1952. 356 p. illus. 23 cm. $6.00. 2668

Contents. Historical. The microbiological population of the soil as a whole. Occurrence of specific microorganisms in the soil. Decomposition of plant and animal residues in soils and in composts. Humus—nature and formation. Decomposition of soil organic matter and evolution of carbon dioxide. Transformation of nitrogen in soil. Nitrogen fixation—nitrate formation and nitrate reduction. Nitrogen fixation in soil, nonsymbiotic—symbiotic. Transformation of mineral substances by microorganisms. Higher plants and soil microorganisms. Disease-producing and antagonistic effects of soil microorganisms. Pests, microorganisms in the soil and their control. Stable manures, composts, and green manures. Microorganisms and soil fertility. Recent developments in soil microbiology. Index.

Note. An introductory survey in which there is some emphasis on those aspects of the subject which are important in an understanding of soil fertility. Although introductory, the treatment is not elementary. The book is addressed to such readers as agronomists, chemists, graduate students in agricultural colleges and to graduate chemists and other scientists who find themselves in need of a fairly substantial survey. The chapters are supplemented by useful selected

bibliographies. The book replaces two other works by the author, *Principles of soil microbiology* second edition, Baltimore, 1931 and *The soil and the microbe*, New York, 1931, and includes some material that appeared in those works. However, no material has been carried over which is not still valid, and the greater part of the material in the present title is new. There are 130 figures and 77 tables.

CONSERVATION OF NATURAL RESOURCES

DAVISON VERNE ELBERT

Bobwhites on the rise. With illustrations by Wallace Hughes. New York Charles Scribner's Sons 1949 150 p illus. 24 cm. $3 75 2669

Contents: Bobwhite and its range. Prevailing problems. Traditions to forget. The bobwhites' habits. Food is their greatest need. Cover, too, is essential. Wildlife land and its management. Woodland management. The place of fire. Cropland. Pastures. Idle land. Organized efforts. Bobwhite numbers and hunting. The things to do, in quick review. Laws to encourage production. Bibliography

Note: "Dedicated to those who hunt the bobwhite quail and to the landowners, who alone can grow more of them," this volume for hunter, farmer, and game preserve owner presents land management as the chief influence on the welfare and production of the bobwhite. It shows what practices applied to wildlife lands can lead to conditions favorable to the increase in numbers of this popular game bird. The author writes on the basis of two decades of experience with game management in various sections of the range of the bobwhite quail in the U. S. A.

GABRIELSON IRA NOEL

Wildlife management. New York The Macmillan Company 1951. 274 p. illus. 22 cm. $4.50. 2670

Contents: The problems of wildlife management. Research in wildlife management. Education in wildlife management. Regulation of human harvest of wild populations. Inventories. Refuges in wildlife management. Artificial propagation. Population controls. Manipulation of upland environment. Manipulation of environment for aquatic forms. Sportsmanship. Administration and wildlife management. Can public hunting and fishing be maintained? Index.

Note: A thoughtful study by the Director of the United States Fish and Wildlife Service, of present-day problems in the field of wildlife management and their solutions. The author appraises present wildlife management activities, indicating the advances made over the past half-century and taking into consideration the fact that farming, engineering projects, lumbering and other activities must continue side by side with the habitat for wild populations. He emphasizes the necessity for a balanced program and particularly the need for periodic checks on projects and practices to be certain they are serving the needs of wildlife. The book is illustrated with photographs and contains bibliographical references at the ends of the chapters.

GOLZÉ, ALFRED R.

Reclamation in the United States. New York McGraw Hill Book Company Inc., 1952 451 p illus. 24 cm. (Civil engineering series, Frederic T Mavis consulting editor) $8.00 2671

Contents: History of reclamation in the United States. Economics of reclamation. Reclamation law. Participating agencies. Investigation and authorization of proposed projects. Single-purpose projects. Multiple-purpose projects. River-basin development. Allocations of cost. Repayment by water users. Repayment by power and other users. Financing the reclamation program. Estimating the cost. Programing and accounting. Settlement. Operation and maintenance. Appendix: Irrigation statistics—17 western states 1949–1950. Index.

Note: A comprehensive work covering reclamation in the sense of "the process of reclaiming the desert lands of the western United States through irrigated agriculture, supported by coordinated development of hydroelectric power." Its purpose is two-fold: (1) to provide instruction material for college courses in engineering and economics relating to reclamation and (2) to provide reference material for research or review of the reclamation programs of the United States. Bibliographical references appear at the ends of the chapters. The author is Director of Programs and Finance in the United States Bureau of Reclamation.

GRANGE WALLACE BYRON

The way to game abundance, with an explanation of game cycles. New York Charles Scribner's Sons 1949 365 p illus. 24 cm. $6 00 2672

Contents (abridged): Part I, The pattern of life (the biological and environmental background). Patterns of environmental adjustment. The mathematics of abundance. The daily and annual activity cycle. Home range: natural resources, habitat. The theory of predation. The theory of disease—parasitism. Part II, Plant and animal successions (the nature and inevitability of habitat change). Game range and primeval wilderness. Game range and succession wilderness. The impact of civilization. The natural propagation unit principle. Part III, Population cycles (why abundance is necessarily cyclic—mechanisms of population response to habitat changes). The cyclic nature of predation—predation and the snowshoe rabbit cycle. The coalescent effect of scattered natural propagation units. The explanation of simultaneity of the snowshoe rabbit cycle. Part IV The technology of game increase (tools, methods and principles of control by man). The control of game cycles. Controlled burning for game. Forest cuttings for game; forest plantings. Cultivation—food strips—winter feeding. Aquatic habitats. Refuges. Restocking. Predator control. Legislation and enforcement for game increase. The management opportunity. Index.

Note: A survey of game conservation and management intended for the hunter or sportsman interested in understanding the causes of game abundance and game scarcity rather than for the research man and administrator in the wildlife management field. Technical terms have been used only when essential. The work is not a summary of other presentations, but an independent work written mainly upon the basis of the author's own observation, research, and field experience. Its conclusions relative to the game cycle have not previously been published.

GREENBERG DAVID BENJAMIN

Raising game birds in captivity New York D Van Nostrand Company Inc. 1949 224 p. illus. 26 cm $7.50 2673

Contents: The importance of wild life in nature's scheme of things. The business of farm game bird production. Game bird classification. Artificial incubation. Artificial brooding. Hatching and rearing with bantams. The nutrition and feeding of game birds. Wing clipping, pinioning, brailing, etc. Predators and their control. Pheasants. The growing pheasant. The story of a going pheasant farm. Bobwhite quail. The chukar (chukor) partridge. The Hungarian partridge. The McCarty pens for raising pheasants, bobwhites, chukars, and Hungarians. Wild turkeys. Aquatic game birds. The marketing of game birds. Appendices. Official organizations concerned with wildlife protection. Publications on game birds. Index.

Note: A comprehensive illustrated manual on breeding, raising, and selling game birds. The book describes in detail the best methods of incubating, brooding, raising, and marketing the several varieties of game birds. It also covers the equipment needed to raise game birds and includes many plans and drawings for pens, incubators, brooders, etc. The book should be valuable to game breeders and conservation department officials and to others interested in raising game birds, whether for food or for purposes of stocking shooting preserves or government lands. Attention is called to the laws of the states of the United States of America governing the marketing of game birds.

MARTIN ALEXANDER CAMPBELL, AND OTHERS

American wildlife & plants, by Alexander C. Martin, Herbert S. Zim, and Arnold L. Nelson. A guide to wildlife food habits the use of trees shrubs, weeds, and herbs by birds and mammals of the United States. Prepared under the direction of the United States Fish and Wildlife Service, Department of the Interior at the Patuxent Research Refuge, Laurel, Maryland. New York McGraw Hill Book Company Inc., 1951 500 p. illus. 23 cm. $7.50 2674

Contents: Part I, Introductory chapters. The plant roots of wildlife. Farm crops and wildlife. Wildlife food-habits studies. Interpreting the data of this book. Part II, Animals and their foods: Water birds. Marshbirds and shorebirds. Upland gamebirds. Songbirds. Birds of prey. Fur and game mammals. Small mammals. Hoofed browsers. Fish, amphibians, and reptiles. Part III, Plants useful to wildlife: Woody plants. Upland weeds and herbs. Marsh and aquatic plants. Cultivated plants. Wildlife plants ranked according to their value. Index.

Note. An elementary inclusive reference book for students of bird life, foresters, conservationists, etc. The second part treats the wildlife of the United States group by group, giving data on their foods, ranges, habits, and economics. About half page is devoted to each principal species of bird or animal. For most species the data given include common name, scientific name, range, general description, both animal food and plant food, with list of plants eaten in specified localities, and an animal-plant food ratio diagram showing the seasonal changes in the proportions of plant and animal food eaten. Literature references are given in some cases. The third part of the book denotes the value of different genera of trees, shrubs, weeds, aquatic plants, and cultivated crops to various kinds of wildlife in different parts of the country

MURIE OLAUS JOHN

The elk of North America. Harrisburg, Pennsylvania The Stackpole Company, and the Wildlife Management Institute, Washington, D C. 1951 376 p illus. (col d front.) 23 cm. $6 50 2675

Contents. Introduction. The name. Origin of the American wapiti. The American forms of elk. Early elk distribution in America. Elk habitat. Life span. Migration. Physical characters. Reproduction. Natural enemies. Accidental deaths. Parasites. Diseases. Varied opinions on the "elk problem." *Food habits.* Elk habits. The elk population. Elk hunting. Elk management. Bibliography Index.

Note A comprehensive treatise written on the basis of many years of field study among the Yellowstone elk herds and checked by field studies on all other major elk herds. It is one of series of books on practical wildlife management published by the Wildlife Management Institute. The book is of particular interest to persons concerned with wildlife management and conservation and is also source of information for the general reader

PARKS WILLIAM ROBERT

Soil conservation districts in action. Ames, Iowa The Iowa State College Press 1952 242 p. illus. 24 cm. $3.50 2676

Contents Beginnings of the soil conservation district. Nature of the soil conservation district. Gearing local districts into national conservation program. Role of district supervisors. Increasing supervisors' role in district administration. Value of district in achieving soil conservation. Future of the soil conservation districts. Appendix. Index.

Note In the United States of America the soil conservation district is legally independent unit of local government which works in cooperation with and essentially under the technical direction of the soil conservation service of the national government. The purpose of local soil conservation districts is to organize and to carry out such soil conservation techniques as terracing, construction of waterways, and reforestation. This book presents an outline of the history of such districts and thorough survey of their experience over period of 15 years There is some emphasis on the legal and management aspects, but accomplishments are also described.

PATTERSON ROBERT L.

The sage grouse in Wyoming. Sketches by Charles W Schwartz. Denver Colo Sage Books Inc. 1952 341 p illus. 24 cm. $5.00 2677

Contents (abridged) Part I, The sage grouse and its environment. Part II, The natural history of sage grouse populations. Part III, Sage grouse and man. Part IV Restoration and management. Part Appendix Literature cited Index

Note A comprehensive study from the conservation standpoint of the sage grouse (also commonly called sage hen), *Tetrao urophasianus*. It was sponsored by the Game and Fish Commission of Wyoming, and most of the work was done within the boundaries of that state However the results of the study are applicable to the sage grouse throughout its natural range and some of the findings are generally applicable to the conservation of other game birds.

Covered are not only the expected points such as the effects of disease and predation, but also critical discussions of land reclamation programs which involve destruction of the natural sagebrush habitat.

SMITH, GUY HAROLD, editor

Conservation of natural resources. Third edition. New York John Wiley & Sons, Inc., 1950 552 p. illus. 25 cm. $6.00 2678

Contents: The development of conservation in America, by A. J. Wright. The public domain and its disposal, by S. R. Visher. The great soil groups and their utilization, by L. A. Wolfanger. Soil conservation, by W A. Rockie. Tree crops, by J. R. Smith. American irrigation, by R. H. Brown. Grassland resources, by H. C. Hanson and W C. Whitman. Reclamation of wet and overflow lands, by G. J Miller. The agricultural prospect, by G. H. Smith. Our forest resources, by O. D. Diller The practice of forest conservation, by O. D. Diller Water supply for domestic and industrial uses, by J. H. Garland. Water power and its conservation, by G. H. Smith. Our waterways and their utilization, by E. J. Foscue. Floods and flood control, by G. H. Smith. Conservation in the mineral kingdom, by W M. Myers. The mineral fuels, by E. W Miller. Conservation of wildlife, by C. A. Dambach. Fisheries for the future, by H. H. Martin. Recreational resources, by E. C. Prophet. The conservation of man, by E. Huntington. State and local planning, by L. Durand, Jr. National planning and the conservation of resources, by G. H. Smith. Index.

Note: (4785) A new and revised edition of textbook which covers the entire field of conservation in manner to interest the general reader as well as the college student. Nine new authors appear among the contributors to this edition. The book retains the general arrangement and organization of the earlier editions, but most of the chapters have been rewritten. large number of illustrations have been added, and the entire make-up modernized.

THOMAS, HAROLD EDGAR

The conservation of ground water A survey of the present ground water situation in the United States. Sponsored by The Conservation Foundation. New York McGraw Hill Book Company Inc., 1951 327 p. 24 cm. $6 50 2679

Contents: Introduction. Hydrologic principles and basic data. Problems resulting from ground water development and use. Ground-water problems resulting from land occupancy. Our increasing requirements for water. Current deficiencies and future needs for effective ground water development. Better ground-water management, by Abel Wolman. Appendixes: Pumpage from major ground water reservoirs in order of magnitude. Index of localities. Selected bibliography of areal ground-water studies. Subject index.

Note An authoritative study particularly applicable to the United States of America, of current and probable future demands for well water the problems that arise when too much water is pumped from underground reservoirs, and means of conserving and replenishing underground water. Included are many case histories of ground-water reservoir exploitation. Related aspects such as the pollution of underground water by sewage and chemical wastes are covered. The author argues strongly for government management of important ground-water reservoirs.

WING LEONARD WILLIAM

Practice of wildlife conservation. New York John Wiley & Sons, Inc. 1951 412 p. illus. 24 cm. $5.50 2680

Contents. Conservation and management. The biological base of management. Techniques of field investigations and practice. Farm management. Techniques of field investigations and practice. Farm game and its management. Farm game birds and mammals. Forests and forest wildlife management. Game birds of the forest. Forest game mammal management. Game management in the open range. Southern wildlife species. Northland wildlife. Fur bearer management. Wildfowl management. Lake fish management and management. Stream improvement and management. Songbird and nongame conservation and management. Treatment of rare, threatened and persecuted species. State powers and controls. Federal wildlife controls in the United States. Provincial and federal wildlife sphere in Canada. Administration and regulations. Index.

Note The chapter headings indicate the detailed subject content of this book on wildlife conservation and game management. The author has written on the basis of experience in various parts of North America. The book is especially suited for instruction at

the college level, and it will be of interest and use also to the general reader who wishes to be informed on wildlife conservation and to the professional conservationist who needs a reference work covering the entire field of conservation theory and practice.

YOCOM CHARLES FREDERICK

Waterfowl and their food plants in Washington. Seattle Wash. University of Washington Press, 1951 272 p. illus. 24 cm. $5.00 2681

Contents (abridged) Waterfowl and their status in Washington. Waterfowl that winter in Washington and their relative abundance. Survey of nesting and resident waterfowl in eastern Washington, summers 1947 and 1948. Brood studies. Migration. Waterfowl and their relationship to hunting. Parasites and diseases. Management. The important food and cover plants for waterfowl in Washington: Typhaceae. Sparganiaceae. Potamogetonaceae. Juncaginaceae. Alismaceae. Hydrocharitaceae. Gramineae. Cyperaceae. Lemnaceae. Polygonaceae. Chenopodiaceae. Ceratophyllaceae. Nymphaeaceae. Ranunculaceae. Cruciferae. Haloragidaceae. Lentibulariaceae. Summary. Literature cited. Subject index. Plant and cover food index.

Note This is a study based upon field observations, of the wild swans, geese and ducks of the state of Washington with special attention to their food habits and to the native aquatic food plants and their distribution within the State. The expressed objective of the publication is to lay the groundwork for future research. Systematic descriptions are given of the distribution of 42 species of waterfowl. Descriptions, drawings, keys, and distribution maps of 124 species of cover and food plants utilized by the fowl are included. Ninety literature references are cited.

FARM MACHINERY AND BUILDINGS

BARGER, EDGAR LEE, AND OTHERS

Tractors and their power units. By E. L. Barger W M. Carleton E. G McKibben and Roy Bainer New York John Wiley & Sons, Inc., 1952 496 p. illus. 23 cm. $6.50 2682

Contents (abridged) History and development of the tractor. Power and power measurement. Thermodynamic principles of internal combustion engines. Tractor fuels. Carburetion and fuel induction. Ignition systems. Engine cooling and cooling systems. Lubrication and lubrication systems. Dirt exclusion. Governors. Engine types and development. Design features of the tractor engine. Operator's comfort, convenience, and safety Hitches. Clutches and brakes. Transmissions, differentials, and final drives. Traction and traction devices. Tractor tests and performance. Tractor maintenance and repair Tractor power cost estimating. Appendix. Index of authors. Index of subjects.

Note A treatise written from the engineering viewpoint. It applies particularly to farm tractors but much of the material is applicable also to larger machines such as are used in construction. The material is not limited to major aspects such as are named in the chapter titles but includes also discussions of such points as tractor stability The book is intended for students enrolled in agricultural engineering colleges, but it contains material of value to anyone concerned with the selection or design of tractors. Lists of references to related literature are included.

BARRE, HENRY JOHN AND L L. SAMMET

Farm structures. New York John Wiley & Sons, Inc. 1950 650 p illus. 23 cm. $7.00 2683

Contents (abridged) Materials and methods of use—wood, concrete, masonry Types of structural frames. Heat and heat transfer. Air water vapor mixtures. Heat flow through walls—insulation. Temperature gradient—condensation in walls Physiologic reactions of animals to ambient temperatures and relative humidity Dairy buildings. Poultry housing. Principles of crop and feed preservation and storage. Storage of fruit and vegetable crops. Storage of grains. Farm houses Estimating construction costs. Building and farmstead planning for process efficiency Introduction to structural design. Estimating loads. Stress analysis. Design for axial loading. Beams. Connections. Appendix. Index.

Note A book on the engineering of farm structures rather than on their planning and building. It relates standard methods in structural analysis and design to the problems encountered by architects or agricultural engineers in designing farm buildings. Standard building materials are covered as well. Some material on floor plans and layouts is included, but there has been no attempt to cover these aspects of the subject fully The book is intended primarily for students of agricultural engineering, but it is quite suitable also as reference manual.

JOHNSON ELMER JOHN AND ALVIN H. HOLLENBERG

Servicing and maintaining farm tractors. New York McGraw Hill Book Company Inc., 1950 313 p. illus. 24 cm. (McGraw Hill rural activities series, W A. Ross, consulting editor) $4.50 2684

Contents Setting up a servicing and maintenance program. Operating a tractor safely Applying tractor power in farming. Lubricating the chassis and assemblies. Lubricating the engine. Lubricating and servicing the transmission and final drives. Servicing air cleaners. Maintaining the tractor electrical system. Selecting and using tools. Servicing and adjusting the carburetion and fuel systems. Servicing the cooling system. Servicing, adjusting, and repairing tractor tires. Locating tractor troubles and making minor repairs. Preparing the tractor for winter use. Cleaning, painting, and storing farm tractors. Appendix: Some essential tools and equipment for servicing and maintaining the farm tractor. Some essential supplies for servicing the farm tractor. References. Definitions of terms used. Index.

Note An illustrated manual of detailed directions. It is addressed to farmers rather than to mechanics who repair tractors. The various types of farm tractors from the small two-wheel garden models up to the crawler or track-laying tractors are covered. Directions for major repair operations are not included; instead, the space is devoted to the minor repairs and maintenance operations appropriate to the average farm.

JONES FRED R.

Farm gas engines and tractors. Third edition. New York McGraw Hill Book Company Inc., 1952 489 p illus. 24 cm. (McGraw Hill publications in agricultural engineering, Quincy C. Ayres, consulting editor) $6 00 2685

Contents (abridged) Farm power sources and adaptability History and development of the internal-combustion engine and farm tractor Types of farm tractors Thermodynamic principles and applications—engine cycles and efficiencies. Tractor-engine types and construction Valves and valve operation. Fuels and combustion. Fuel supply and carburetion systems. Air cleaners. Cooling and cooling systems Governing and governing systems. Ignition methods—fundamentals of electric ignition. Storage cells and batteries. Diesel-engine construction and operation. Electric generators—starters—lighting. Lubricants and lubrication systems. Tractor clutches. Tractor transmissions and accessories. Tractor chassis—traction devices—pneumatic tires—steering mechanisms Tractor power rating—Nebraska power tests. Tractor hitches and field operation. Gas-engine and tractor servicing and maintenance. Economics of tractor utilization Materials of construction—power transmission. Appendix Index

Note An up-to-date textbook which is useful not only in agricultural college courses, but also as a practical manual for mechanics and service men, and for owners and operators of tractors. It is illustrated with 415 photographs and drawings and 42 tables, and each chapter is concluded with bibliographical references. For the third edition the author has completely revised a large part of the subject matter A chapter has been added on basic thermodynamics and its application to heat engine design. Such new developments as the use of LP gas as a tractor fuel, hydraulic transmissions, and hydraulic controls are clearly presented. The illustrations have also been revised.

MOSES BEN DUNCAN AND KENNETH R. FROST

Farm power New York John Wiley & Sons, Inc. 1952 484 p illus. 24 cm. $5 75 2686

Contents (abridged) Part 1, Relation of farm power to agriculture. Farm power development and utilization. Part 2 Internal-combustion engines: Internal-combustion engine principles. Valve

and engine timing. Fuels and combustion. Ignition methods. Diesel engines. Fundamentals of electric ignition. Starting and lighting systems. Governors and governor controls. Engine cooling. Lubrication. Engine troubles. Part 3 Tractors. Clutches. Transmissions. Differentials and final drives. Pulley attachments, power take-offs, and power lifts. Tractor controls. Air cleaners. Spark arresters. Traction members. Power measurement. Hitches and drawbars. Tractor selection and management. References. Index.

Note: Although the title indicates a general treatise of power on farms, this book is limited to tractors and their engines. The treatment is practical and it is also simple in the sense that no previous acquaintance with mechanical engineering on the part of the reader has been assumed. On the other hand, such aspects as tractor transmissions are discussed in adequate detail for the farmer's purposes. The book is intended primarily for students at agricultural colleges. It can be used also as a source of general information about tractors and their elements. There is a five-page bibliography.

WOOLEY, JOHN COCHRAN

Repairing and constructing farm buildings. New York McGraw Hill Book Company Inc., 1952 261 p. illus. 24 cm. (McGraw Hill rural activities series W. A. Ross consulting editor) $4 50 2687

Contents: Part I, Repairing farm buildings: Introduction to Part I. Terminology of repair and construction. Disposing of roof and yard drainage. Repairing foundations. Repairing basement walls and floors. Repairing and replacing parts of barn frames. Repairing and re-covering exterior walls. Repairing windows and repairing and replacing doors. Repairing and re-covering old roofs. Insulating old buildings. Ventilating existing buildings. Repairing silos. Repairing ceilings, walls, and floors in farm homes. Part II, Constructing farm buildings. Introduction to Part II. Constructing farm buildings. Staking out a new building. Excavating for construction of farm buildings. Mixing and placing concrete. Constructing a foundation. Erecting the framework of a farm building. Framing gable, gambrel, and hip roofs. Framing Gothic-roof buildings. Constructing yard fences and gates. Appendix: General-purpose lumber. Wood fasteners. Paint for farm buildings. Wood preservatives. Definitions of parts and terms used in repair and construction of farm buildings. Correlated list of visual aids. Index.

Note. A practical book for the farmer who wants to learn how to construct and repair his own buildings or for contractors and carpenters engaged in such work. It presents in nontechnical language all necessary details for the construction and repair of various types of farm buildings, including the farm house. Carefully prepared line drawings add to the usefulness of the book. While not intended as a textbook, the book should be of service in agricultural education and also for persons who need information on construction and repair for purposes of supervision of carpenters and inspection of finished work.

AGRICULTURAL CHEMISTRY

AHLGREN, GILBERT HAROLD, AND OTHERS

Principles of weed control. By Gilbert H. Ahlgren, Glenn C. Klingman and Dale E. Wolf. New York John Wiley & Sons, Inc. 1951 368 p. illus. 22 cm. $5.50. 2688

Contents: Introduction. Principles of control and eradication. Chemicals used in weed control. Physiological effects of herbicides. Field crops grown in rows. Small grains and flax. Grasslands and rights-of-way. Drilled and broadcast legumes. Vegetables and fruits. Drainage and irrigation ditches, stream banks, lakes, and ponds. Turf, lawns, and ornamental plants. Brush and undesirable trees. Soil sterilants. Defoliation. Poisonous weeds. Special weed problems. Application equipment. Appendix. Author index. Subject index.

Note. An indication of the impact of science upon agriculture is found in the fact that most of this book is devoted to weed control by chemicals. Calcium cyanamide, 2, 4-D, 2, 4, 5-T and other chemicals now in use or that have been tried in practical weed control are described. Techniques of chemically controlling weeds in various crops or chemically controlling particular weeds are covered. There are good lists of references and more than 100 illustrations.

ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS

Official methods of analysis of the Association of Official Agricultural Chemists. Editorial board Henry A. Lepper chairman. Committee on Editing Methods of Analysis H. J. Fisher (chairman) E. L. Griffin, W. F. Reindollar, J. W. Sale, F. H. Wiley, and Marian Lapp Otis. Seventh edition. Washington, D. C. The Association of Official Agricultural Chemists 1950 910 p. illus. 24 cm. $10 00 2689

Contents. Agricultural liming materials. Fertilizers. Soils. Caustic poisons. Economic poisons. Plants. Baking powders and baking chemicals. Beverages: non-alcoholic and concentrates. Beverages: distilled liquors. Beverages: malt beverages, sirups and extracts, and brewing materials. Beverages: wines. Cacao bean and its products. Cereal foods. Coffee and tea. Dairy products. Eggs and egg products. Enzymes. Fish and other marine products. Flavoring extracts. Fruits and fruit products. Gelatin, dessert preparations, and mixes. Grain and stock feeds. Meat and meat products. Metals, other elements and residues in foods. Nuts and nut products. Oils, fats, and waxes. Preservatives and artificial sweeteners. Spices and other condiments. Sugars and sugar products. Vegetable products, processed. Waters, mineral, and salt. Drugs. Cosmetics. Coloring matters. Extraneous materials: isolation. Microbiological methods. Microchemical methods. Radioactivity. Standard solutions. Vitamins. Reference tables. General index.

Note (3317*) This latest quinquennial revision of a work that has been standard among agricultural chemists for more than 30 years presents the laboratory analyst with the most recent approved procedures for the analysis and examination of the products of agriculture and other commodities connected with agriculture. The change of title reflects the action of the Association in deleting the former "tentative" classification—methods now being designated "first action" upon first adoption and "official" upon subsequent final adoption. In the seventh edition nearly all chapters have been expanded by the inclusion of new methods, particularly the chapters on cosmetics, coloring matters, metals and other elements in foods and drugs, preservatives, vitamins, and extraneous materials in foods and drugs.

DUTCHER, RAYMOND ADAMS, AND OTHERS

Introduction to agricultural biochemistry by R. Adams Dutcher, Clifford O. Jensen and Paul M. Althouse. New York John Wiley & Sons Inc. 1951 502 p. 22 cm. $6 00. 2690

Contents (abridged) Part 1 General and introductory: Chemistry of living matter. Physical state of matter. Carbohydrates. The lipids. Proteins. Enzymes. Biological oxidations. Part 2 The plant: Food production. The soil and its relation to plant growth. Fertilizers. Pesticides. Farm chemurgy. Part 3, The animal: Foods and feeding. The chemistry of blood, lymph, and body fluids. Digestion of foods. The chemistry of blood. [illegible] The vitamins. Energy metabolism. Lipid metabolism. [illegible] metabolism. Protein nutrition. Mineral metabolism. Mineral nutrition. Appendix. Index.

Note. (4801) This book is primarily a textbook for use in agricultural colleges, but its compact discussions of such topics as [illegible] metabolism could be useful to students in fields other than agriculture. Previous study of inorganic and organic chemistry is assumed in the treatment. The book is designed for approximately the same audience as Dutcher and Haley's *Introduction to agricultural biochemistry* but the contents are largely new.

FREAR, DONALD ELISHA HARDING, editor

Agricultural chemistry: a reference text. New York D. Van Nostrand Company Inc., 1950–51 2 vols illus. 25 cm. Vol. 1 $9.50 vol. 2 $9 50 2691

Contents: Volume one, Principles of agricultural chemistry: Part I, Some fundamental materials and processes common to plants and animals: Chemistry of the carbohydrates, by M. L. Wolfrom. Chemistry of the lipids, by J. B. Brown. Chemistry of the amino acids and proteins, by C. M. Stevens. Part II, Chemical processes of fundamental importance in agriculture: Chemistry of enzymes and their action, by G. F. Somers. Biological oxidations, by V. R. Potter. Part III, Biophysical phenomena and cell chemistry, by H. W. Popp. Plant chemistry: Plant metabolism—general features, by D. R. [illegible] Absorption and utilization of inorganic substances in plants, by D. R. Hoagland and F. R. Steel. The chlorophylls and photosynthesis, by F. P. Zscheile. Plant pigments other than the chlorophylls, by L. F. Zscheile. Utilization of carbohydrates in plants, by [illegible] Absorption and utilization of nitrogen compounds in plants, by F. E.

Schlenker Plant hormones and other regulatory factors, by J van Overbeek. Part IV Animal chemistry: Animal metabolism—general features, by B. H. Schneider. Digestive processes, by B. H. Schneider Energy metabolism, by L. Voris. Carbohydrate metabolism, by M. E. Kohl. Lipid metabolism, by J. B. Brown. Protein metabolism, by G. H. Pritham. Absorption and utilization of inorganic substances, by J. K. Loosli. The vitamins, by N B. Guerrant. Part Soil chemistry: The minerals of the soil, by C. D. Jeffries. Colloids of the soil, by E. A. Hauser. Soil organic matter by J E. Dawson. Subject index. Volume two, Practical applications of agricultural chemistry: Part I, Chemistry of major agricultural products: The chemistry of seed and cereal crops, by V H. Morris. The chemistry of fruit and vegetable crops, by H. W von Loesecke and Z. I. Kertesz. The chemistry of forage crops, by J T Sullivan. The chemistry of meat and meat products, by R. C. Miller The chemistry of milk and dairy products, by A. H. Johnson. The chemistry of eggs and poultry products, by R. M. Conrad. Part II, Fertilizers and soil amendments: Nitrogenous fertilizers, by S. F Thornton. Potassium fertilizers, by J. D Romaine. Phosphate fertilizers, by C. A. Black and W H. Pierre. Mixed fertilizers, by S. F Thornton. Liming materials, by A. C. Richer Minor element supplements, by E. R. Purvis. Part III, Nutrition of farm animals: The nutrition of dairy cattle, by S. E. Smith. The nutrition of beef cattle, by H. R. Guilbert. The nutrition of horses and mules, by P B. Pearson and C. F Winchester The nutrition of sheep and goats, by P B. Pearson. The nutrition of poultry by H. W Titus. The nutrition of swine, by R. C. Miller. The nutrition of domestic and fur bearing animals, by A. E. Schaefer Part IV Pesticides: Insecticides, by D. E. H. Frear Fungicides, by D. E. H. Frear. Herbicides, by D E. H. Frear. Part Commercial agricultural chemistry: Inventions and patents relating to agricultural chemistry by C. W Rivise and A. D. Caesar. Chemurgic applications of agricultural products, by J. R. Clopton. Subject index.

Note: A comprehensive survey of agricultural chemistry is presented in this work. Each of the chapters discusses in some detail the chemical aspects of some phase of the growing or processing of plants and animals of agricultural importance. Concluding each chapter is bibliographical list of references. The work is especially suitable for reference use by such readers as (1) university graduate students in the various branches of agricultural chemistry (2) county agents, extension workers, and business men whose work involves knowledge of such products as feeds, fertilizers, and insecticides, and (3) research investigators in the agricultural sciences who need information on subjects bordering on their own specialties. The volumes can be used independently of one another

HUNGER SIGNS IN CROPS a symposium. Prepared by Firman E Bear [and others] Revised edition. Washington The American Society of Agronomy and The National Fertilizer Association, 1949 390 p illus. (part col d) 26 cm. $4.50 2692

Contents: Why do plants starve? by G. D. Scarseth and M. J. Volk. Plant-nutrient deficiency in tobacco, by J E. McMurtrey Jr. Deficiency symptoms of corn and small grain, by G. N Hoffer and R. A. Krantz. Plant-nutrient deficiency symptoms in the potato, by H. A. Jones and others Plant nutrient deficiency symptoms in cotton, by H. P Cooper and L. Donald. Plant-nutrient deficiencies in vegetable or truck crops, by J J. Skinner and E. R. Purvis. Nutrient deficiency symptoms in deciduous fruits, by O. W Davidson and W P Judkins. Plant-nutrient deficiency symptoms in legumes, by W L. Nelson and F E. Bear Symptoms of citrus malnutrition, by A. F Camp and others. Appendix. Index.

Note: (741a) The symptoms and effects of deficiencies in soil nutrients that are essential to plant growth are described in this valuable work. A clearly written text supplemented by 113 illustrations reproduced in black and white and 124 plates in color. Though written by eminent specialists in plant nutrition, the book is addressed primarily to persons with practical interests such as agricultural extension workers, chemists in the fertilizer industry and scientific farmers. The chapter titles are the same as in the first edition, but there has been much revision and most of the chapters are now signed with the name of an additional contributor.

UNITED STATES ATOMIC ENERGY COMMISSION

Some applications of atomic energy in plant science. Washington, D C. Government Printing Office, 1952 211 p. illus. 23 cm. Paper $0.50 2693

Contents (abridged): Part one, Major activities in atomic energy programs, July–December 1951 Part two, Condensed AEC annual financial report, fiscal year 1951. Part three, Atomic energy and its applications in plant science Effects of radiation on plants—intense radiation and plant development. Effects of moderate radiation. Handling atomic energy wastes. Biochemical effects of radiation. Radiation and plant genetics. Plant research with isotopes Efficient use of fertilizers. Biological sources of plant nutrients. Movements of minerals in plants. Tracer research on trees. Studies of crop pests. Photosynthesis and biosynthesis: Biosynthesis of tagged compounds. Appendices.

Note: The eleventh semiannual report of the Atomic Energy Commission reviewing major developments of the second half of 1951 that can be publicly divulged without hazard to national security together with the AEC financial report for fiscal 1951 is combined in this publication with detailed review of developments in plant science research supported by the AEC.

ECONOMIC BOTANY

HILL ALBERT FREDERICK

Economic botany a textbook of useful plants and plant products. Second edition. New York McGraw Hill Book Company, Inc., 1952 560 p illus. 24 cm. (McGraw-Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $7.00 2694

Contents (abridged): Introduction. The importance and nature of plant products. Industrial plants and plant products: Forest products, wood and cork. Rubber and other latex products. Gums and resins. Essential oils. Fatty oils and waxes. Sugars, starches, and cellulose products. Drug plants and drugs. Food plants: The major cereals. The minor cereals and small grains. Legumes and nuts. Vegetables. Fruits of temperate regions. Tropical fruits. Food adjuncts: Spices and other flavoring materials. Beverage plants and beverages. Appendix Bibliography Index.

Note: (4809) An introductory survey of the commercial products derived from plants. It is designed for use as textbook but it serves equally well as reference book. In both public and private libraries it is used to supply general information on such plant products as chicle gum, gum arabic, kola nuts, and Spanish moss. Though it is limited to books published since 1934, the bibliography is helpful feature. In this edition there is fair amount of new material including discussions of 140 additional species. There are 110 figures, most of which are reproductions of photographs.

KLOSE, NELSON

America s crop heritage the history of foreign plant introduction by the Federal Government. Ames The Iowa State College Press, 1950. 156 p. illus. 24 cm. $3.50 2695

Contents: Early American agriculture. Search for new crops, 1770–1840. Federal promotion of crops. Leadership of the Patent Office, 1836–62. The commissionership, 1862–89. Main importations. Lesser importations. Plant introduction under Rusk and Morton. Bonanza years. Plant introduction of the twentieth century Appendix. Index.

Note: A somewhat informal history of an important activity in the development of agriculture in the U. S. A. As the subtitle indicates, is limited to the efforts of the National Government in introducing and testing new plants. Even within this limitation, the account is rather generalized and only the most prominent men and the most important importations are given much space. However information is assembled in the book that had not been readily available to students of the history of agriculture and of the economic development of the U S. A.

KUMMER, ANNA PEDERSEN

Weed seedlings. Drawings by the author Chicago The University of Chicago Press, 1951 435 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $5 00 2696

Contents: Artificial key to the species and varieties. Illustrations and descriptions of three hundred species and varieties of weed seedlings. Index.

Note: A practical book for the identification of the seedlings of weeds likely to be found growing in gardens, farms, ranches, or woods in the United States and Canada. Preceding the illustrations and descriptions is a key to assist in the process of identification. The 300 varieties include all common and noxious weeds. The drawings, which are unshaded, show the general aspect and growth habit of the plant, including the roots. For each species there is also a set of drawings, in twice the natural size, which show a detached seed leaf and the first, third, and fifth leaves. Descriptions include features not obvious in the drawings, measurements of the seedlings, and range and habitat. The author made the drawings from weed seedlings grown from seed taken from identified specimens and harvested in four representative stages of growth.

ROBBINS WILFRED WILLIAM AND OTHERS

Weed control, a textbook and manual, by Wilfred W Robbins, Alden S Crafts, and Richard N Raynor Second edition. New York McGraw Hill Book Company, Inc., 1952 503 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8 00 2697

Contents. Weeds and human affairs. Reproduction of weeds. Methods of preventing the introduction and spread of weeds. Ecology of weeds. Principles of weed control. Tillage methods of weed control. Biological control of weeds. Use of chemicals in weed control. Properties and functions of herbicides. Selective herbicides—foliage contact applications. Selective herbicides—foliage contact applications—oils. Selective translocated herbicides—foliage contact applications—hormone-like substances. Selective herbicides—root applications. Nonselective herbicides—foliage contact applications. Nonselective herbicides—translocated foliage applications. Nonselective herbicides—root applications. Evaluation of combinations of chemical applications. Equipment for applying herbicides. Special weed problems—weeds of grasslands and turf. Special weed problems—cropped areas. Special weed problems—noncropped areas. Special weeds. Appendix. Convenient measures. Required nozzle capacities to apply desired number of gallons of spray per acre. Cost per unit weight of active ingredient. Common and scientific names of weeds used in text. General references. Author index. Subject index.

Note (4815) A critical review of currently useful methods, organized so that it may be used both as a textbook in agricultural college courses and a reference book for practical farmers and agricultural extension workers. It has undergone complete revision to cover such developments since the 1942 edition as the discovery of 2,4-dichlorophenoxyacetic acid as a selective weed killer, the introduction of trichloroacetic acid and its salts, isopropyl phenylcarbamate, and maleic hydrazide, and other types of advances, including soil studies and improved methods of marketing and applying herbicides. The new edition contains new illustrations, additions to the bibliographies, and enlarged sections on specific weeds, the weeds of different crops, and special weed problems. The book has been somewhat reduced in size, principally by the elimination of illustrative material; the figures, mostly photographic, have been reduced in number from 202 in the first edition to 181.

SCHERY ROBERT W

Plants for man. New York Prentice-Hall, Inc., 1952 564 p. illus. 26 cm. $10 00 2698

Contents. Part I, Introduction. Man's dependence upon plants. Man's economic interest in plants. Part II, Products from the plant cell wall: Forests available to man. The forest belts of North America. Wood and its uses. The forests, man, and the future. Fibers. Part III, Cell products and extractives. Latex products. Pectins, gums, resins, oleoresins, and similar exudates. Vegetable tannins and dyes. Essential oils for perfumes, flavors, and industrial uses. Medicinals, insecticides, and herbicides—tobacco. Vegetable oils, fats, and waxes. Carbohydrate extractives—sugars and starches. Part IV. Plants and plant parts used primarily for food and beverages: Food plants. The cereals. Other food seeds and forage. Vegetables—root, stem, and leaf crops. Fruits. Beverage plants. Of minor importance and miscellaneous. Index.

Note. A readable, encyclopedic work on the plants and plant products that are useful to man. It is organized so that it may be used either as an introductory text in economic botany or as a source of information for general readers. Plants of considerable economic importance are given several pages of space, while those of minor importance are described in a single paragraph. The book is generously illustrated and the chapters are accompanied by selected references for supplementary reading. The index is full.

PLANT DISEASES

BARNES, HELEN VIRGINIA, AND JESSIE M. ALLEN compilers

A bibliography of plant pathology in the tropics and in Latin America. Washington, D C. Government Printing Office, 1951 78 p. 27 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 14) Paper, $0.40 2699

Contents: Introduction, by Frederick L. Wellman. A bibliography of plant pathology in the tropics and in Latin America. Index of authors. Index of plant diseases.

Note. This bibliography, listing 2191 references on phytopathology in the tropics and Latin America, covers the years 1937 through 1949. In the preface a listing is made of sources containing bibliographies prior to 1937. The arrangement is alphabetical by author, with brief annotations where the titles do not fully indicate the contents and with notes to describe items in foreign languages which contain English summaries. A key to the contents is provided by the index in which diseases are grouped under the scientific names of the host plant and cross indexed under the names of the host plants in English, Portuguese, and Spanish.

CATION DONALD, AND OTHERS editors

Virus diseases and other disorders with viruslike symptoms of stone fruits in North America. Publication committee Donald Cation, chairman. Washington, D C. Government Printing Office, 1951 276 p. illus. (part col d) 24 cm. (United States. Department of Agriculture. Agriculture handbook 10) $2.50. 2700

Contents Introduction. Virus diseases of peach. Virus diseases of sweet cherry. Rough bark of oriental flowering cherry. Virus diseases of sour cherry. Virus diseases of plum and prune. Ring pox of apricot. Virus diseases of almond. Viruslike diseases not proved transmissible. Deficiency and excess troubles that resemble virus diseases. *Literature cited. Appendix:* Common and scientific names of plants. List of authors. Host-disease index.

Note This handbook brings together up-to-date information about more than 40 known virus diseases affecting stone fruits in the United States, and also covers certain nonvirus and nutritional disorders which might be confused with virus diseases. Many photographic illustrations in black and white and in color of diagnostic symptoms are provided to assist in recognition of the diseases. The chapters, each devoted to a specific disease and prepared by a specialist or group of specialists, are grouped by fruit. The following sub-headings occur in typical chapters: name of the disease, name of the causal virus, history, geographic distribution, economic importance, host range, symptoms, diagnostic or unusual characteristics, transmission, incubation period, and control measures. The publication is useful to plant pathologists, fruit growers, nurserymen, students, and regulatory officials.

ELLIOTT, CHARLOTTE

Manual of bacterial plant pathogens. Second, entirely revised edition. Waltham, Mass. Chronica Botanica Company 1951 186 p. illus. 27 cm. (Annales cryptogamici et phytopathologici. Volume x. Edited by Frans Verdoorn) $6.00 2701

Contents: Part I, Bacterial plant pathogens. Part II, Bacterial species reported in the literature from plants but not recognized as valid plant pathogens. Index of genera and species of plant hosts. Index of genera and species of bacteria.

Note A reference book of primary interest to professional workers in plant pathology. It is organized as a dictionary with the scientific names of the pathogens arranged alphabetically. The entry for each organism contains a variety of information including literature references, concise physical descriptions, behavior in various standard tests, optimum temperature, thermal death point, host range, geographical distribution, and methods of control. The nomenclature adopted in this edition is that of the 1948 edition of Bergey's *Manual of determinative bacteriology*

SPRAGUE, RODERICK

Diseases of cereals and grasses in North America (fungi, except smuts and rusts) New York The Ronald Press Company 1950 illus. 538 p. 24 cm. $8.00 2702

Contents. The Fungi: Phycomycetes, Ascomycetes, Basidiomycetes. Fungi imperfecti: Sphaeropsidales, Melanconiales, Moniliales. Glossary Literature cited. Index of fungi. Index of cereal and grass hosts.

Note: A systematic, descriptive manual designed to aid plant pathologists in the identification of parasitic fungi and the diseases of the grass family caused by them. Saprophytic fungi associated with parasitic fungi are also included. The geographic area covered includes North America, Central America, and Hawaii. The monograph on each species includes technical description of the individual fungus and of disease symptoms caused in the host, range by states and provinces, world distribution, and literature citations. The author is plant pathologist on the staff of the Agricultural Experiment Station of the State College of Washington.

STEVENS, NEIL EVERETT AND RUSSELL B STEVENS

Disease in plants an introduction to agricultural phytopathology Waltham, Mass. Chronica Botanica Company, 1952 219 p. 24 cm. $4 75 2703

Contents: Plants, plant disease, and human welfare. The effect of disease on plants. Causal agents of plant disease: Viruses. Bacteria and fungi. Flowering plants, nematodes, and insects. Nutritional factors, climatic effects, chemical injury Factors influencing the development of pathogenic diseases. The host. The pathogen. Weather and soil. Insects. Variation and physiological specialization in plant pathogens. Introduced hosts and pathogens. Disease control: The economy of disease control. Chemical treatment. Seed treatment. Soil treatment—crop rotation. Exclusion—eradication—quarantine. Breeding for disease resistance. Market pathology Handling plant disease problems. General index. Index of persons.

Note: A survey in which the emphasis is on the aspects of plant disease which are of general interest and applicability On numerous points, such as the recently developed fungicides, there is little or no information; on the other hand such aspects as methods of testing fungicides are adequately described. Descriptions of individual diseases are in general not included, but types of diseases are discussed. The style is condensed. For example the chapter on breeding plants for resistance to disease is only 10 pages long. However it is supplemented by selected bibliography Social and economic aspects are covered in general and the economy of various large-scale control measures is compared. The work is part of 13-volume *Manual of the plant sciences*, edited by Frans Verdoorn.

WALKER, JOHN CHARLES

Plant pathology New York McGraw Hill Book Company Inc., 1950 699 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8.00. 2704

Contents: History of plant pathology Nonparasitic diseases. Bacterial diseases. Diseases incited by plasmodiophorales Diseases incited by phycomycetes—by fungi imperfecti—by ascomycetes—by basidiomycetes—by phanerogamic parasites—by nematodes. Virus diseases. Relation of environment to disease development. Host-parasite interaction. Disease control through exclusion and eradication. Disease control through protection. Disease control through host resistance. Index.

Note: An introductory textbook for undergraduate college students of botany and agriculture. The broad principles of the subject are developed from fairly intensive studies of representative diseases. For the diseases discussed there is general overview, an account of symptoms, causal organisms, the disease cycle, varietal resistance, control, and list of general and specific references. The style is clear and concise and extensive lists of literature citations are included. There are 149 illustrations. The author is Professor of Plant Pathology in the University of Wisconsin.

WESTCOTT, CYNTHIA

Plant disease handbook. New York D Van Nostrand Co., Inc., 1950 746 p. illus. 24 cm. $8.50. 2705

Contents: Introduction. Garden chemicals and their application. Classification of plant pathogens. Plant diseases and their pathogens. Host plants and their diseases. List of agricultural experiment stations. Glossary Selected bibliography Index.

Note: A substantial reference manual. There are two main parts. Plant diseases and their pathogens, about 360 pages in length, furnishes concise semi-technical descriptions of the diseases. The second main part "Host plants and their diseases, about 340 pages in length, is arranged by plant names with the diseases to which particular plant is susceptible listed under the plant name. The book is more comprehensive than is required by the average home-gardener but it is valuable reference book for libraries, agricultural extension workers, and advanced amateur gardeners.

INSECT PESTS AND INSECTICIDES

AMERICAN CHEMICAL SOCIETY

Agricultural control chemicals. Collected papers from the Symposia on Economic Poisons presented before the Division of Agricultural and Food Chemistry of the American Chemical Society at the 115th national meeting in San Francisco March 28 to April 1 1949 and the 116th national meeting in Atlantic City September 18 to 23 1949 Washington D C. American Chemical Society, 1950 273 p. illus. 24 cm. (American Chemical Society Advances in chemistry series. No. 1) Paper $2.50 2706

Contents: Objectives and scope, by J L. St. John. World use of economic poisons, by S. S. Easter. Insecticides in agriculture, by S. A. Rohwer. Some problems in the use of newer economic poisons, by G. F MacLeod. Labeling requirements for insecticides and other economic poisons under Federal law by W G. Reed. Registration and labeling of economic poisons in California, by A. B. Lemmon. State and municipal health department requirements for use of common (useful) insecticide sprays, by E. L. Holmes and L. J. Salathe. Use of residual spray materials in typical food industry, by E. L. Holmes and L. J. Salathe. Pharmacology and toxicology of parathion, by L. W Hazleton and E. G. Holland. Pharmacology and toxicology of some important economic poisons, by C. H. Hine. New safe insecticides, by H. Wachs and others. Spray residues on food crops and their relation to total food consumption, by R. H. Robinson. Public health aspects of agricultural chemicals, by H. K. Abrams. Benefits and hazards of insecticides to public health, by W J. Hayes, Jr and S. W Simmons. The physician's role in the pesticide problem, by B. E. Conley and J R. Wilson. Determining new insecticides in formulations and residues, by H. L. Haller. Mass-production techniques for estimation of parathion residues, by F A. Gunther and R. C. Blinn. Mass estimation of DDT surface and penetrating residues, by F A. Gunther and M. E. Miller. Microbioassay of insecticide residues in plant and animal tissues, by W M. Hoskins and P S. Messenger Toxicity of spray residue of fresh and processed fruits and vegetables, by A. Hartzell. Some poisonous residue factors in use of two new organic insecticides, by G. S. Hensill and L. R. Gardner. Selenium residue on and in the peel of Washington apples, by K. C. Walker. Fruit surface residues of DDT and parathion at harvest, by M. M. Barnes and others. DDT and parathion spray residues on apples, by W E. Westlake and J E. Fahey Parathion spray residue on soft fruits, apples, and pears, by K. C. Walker. Absorption of DDT and parathion by fruits, by G. E. Carman and others. Removal of DDT and parathion residues from apples, pears, lemons, and oranges, by F A. Gunther and others. Synthesis and development of parathion and related compounds, by J. T Cassaday and others. Organic phosphorus insecticides, by S. A. Hall. Chemistry and toxicity of some organothorine insecticides, by W T Sumerford. Alkali-stable polychloro organic insect toxicants, aldrin and dieldrin, by R. E. Lidov and others. Insecticidal activity and dehydrochlorination rates of some polychloro insecticides, by S. J. Cristol. Colorimetric method for estimating small amounts of aldrin, by A. A. Danish and R. E. Lidov. Polarographic determination of O,O-diethyl O p nitrophenyl thiophosphate (parathion) by C. V Bowen and F I. Edwards, Jr. Effect of acetic acid on recovery of ethylene dibromide from California soil, by W J. Hanson. Multiple responsibilities of the insecticide chemist, by D. D. Irish. Responsibilities of the chemist in the development of insecticides, by W H. Tisdale and J. W Williams. Pest-control chemicals in the production of food, by L. S. Hitchner. Military characteristics of insecticides, by F W Whitemore, Jr. Development and use of synthetic organic insecticides, by

C. E. Palm. Toxicological investigations by industry by J H. Fosliger. Toxicological action and metabolic fate of chlordan, by E. F Stohlman and M. I. Smith. DDT in eggs and tissues of chickens fed varying levels of DDT by M. J. Bryson and others. DDT in milk and tissues of dairy cows fed DDT-dusted alfalfa hay by C. Biddulph and others. 2 4-dichlorophenoxyacetic acid (2 4-D) as selective herbicide, by J H. Quastel. Metabolic products of elemental sulfur 35 applied to lemons as an insecticide, by F M. Turrell and M. B. Chervenak. Colorimetric determination of small quantities of 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-ethane, by J. D Fairing and H. P Warrington, Jr. Partition chromatography in analysis of insecticide formulations, by T H. Harris. Organic-chlorine determinations as measure of insecticide residues in agricultural products, by R. H. Carter and others.

Note: A collection of original papers written by chemists and addressed to professional chemists. Literature references are included for some of the papers.

BAILEY, STANLEY FULLER, AND LESLIE M SMITH

Handbook of agricultural pest control. New York Industry Publications, Inc. 1951 191 p. illus. 20 cm. $3 25 2707

Contents: Introduction. Section I, Chemicals: The agricultural chemicals. Physical and chemical properties. Compatibility Containers. Fumigants and fumigation. Toxicology and residues. Spray oil specifications. Section II, Machines: Spraying machines. Rates of delivery of spray machines. Rates of application for sprays. Dusts and dusting. Aircraft. Section III, Miscellaneous: Reference tables and formulas for mosquito control operators. Hazards. Miscellaneous topics. Tables and formulas. Terms and symbols.

Note: A brief, well-constructed handbook containing up-to-date factual information useful in the use of insecticides, fungicides, weed killers, etc. There are 101 tables in addition to formulas scattered through the text. Trade names of chemicals are included occasionally to clarify the materials designated by chemical names. It is useful book for progressive farmers, agricultural pest control operators, agricultural advisers, and research workers wanting precise guidance in handling, measuring, and applying agricultural chemicals. The authors are Professors of Entomology in the University of California.

BAKER, WILLIAM ALFONSO AND OTHERS

Biological control of the European corn borer in the United States, by W A. Baker W G Bradley and C A. Clark. Washington, D C. Government Printing Office 1949 185 p illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 983) Paper $0.50 2708

Contents (abridged) Introduction. Synonymy Importations. Domestic collections. Laboratory breeding. Storage of parasite material. Emergence. Parasite shipments. Colonization and sampling methods. Liberation procedure. Field sampling procedure. Imported parasites in maintenance status in the United States. Imported parasites not known to be established in the United States. Parasite complexes at test points in the United States: Utilization of native hosts by imported parasites. Field status of native parasites. Insect predators. Birds. Disease Summary Literature cited.

Note A scientific report by three entomologists of the Bureau of Entomology and Plant Quarantine on the results of investigations conducted between 1919 and 1940 to reduce the losses of field and sweet corn due to the European corn borer. These investigations largely took the form of experiments with the introduction of various dipterous and hymenopterous insects parasitic upon the corn borer. Methods of introduction and colonization of the parasites are described, and figures are tabulated to show results by years, localities, and species of parasites released. Individual attention is given to 23 different imported species of insect parasites. Briefer treatment is given to 29 native insect parasites and to insect predators, birds, and disease as biological methods of control.

BROWN ANTHONY WILLIAM

Insect control by chemicals. New York John Wiley & Sons Inc. 1951 817 p illus. 22 cm. $12.50 2709

Contents Insecticides of the mid-twentieth century and their properties. The structure of organic chemicals and their toxicity to insects. Susceptibility of insects to the entry of poisons. The pharmacology of poisons for insects. Equipment developed for the application of insecticides. The application of insecticides from aircraft. Toxicity and hazards to man and domestic animals. Toxicity of insecticides to plant growth. Chemical control of insects feeding on plants. Chemical control of insects affecting man and animals. Insecticides and the balance of animal populations.

Note: The author has managed to cover practically all aspects of the subject from what is known about the relations between molecular structure and toxicity to comparisons between airplanes and helicopters in the application of dusts. The gist of the available information is given in all instances, and most practical workers in the field will find it adequate. Literature citations are given for all the important statements in the text. Most of the bibliographies appended to the chapters run to several hundred references, hence the book can be used also as guide to the literature.

EBELING, WALTER

Subtropical entomology San Francisco Lithotype Process Co., 1950 747 p. illus. 28 cm. $7 50 2710

Contents: Origin and scope of applied entomology Morphology and metamorphosis. Classification. The orders of insects. Organization and legislation in entomology Artificial control. Insecticides used primarily as stomach poisons. Sulfur compounds. Insecticides of plant origin. Chlorinated hydrocarbons. Organic phosphates. Miscellaneous organic insecticides. Spray oils. Fumigants. Orchard fumigation. Equipment for application of insecticides. Experimental design and evaluation of treatment. Biological control. Citrus pests. Citrus pests of foreign countries. Grape pests. Walnut pests. Almond pests. Pecan pests. Fig pests. Olive pests. Avocado pests. Date pests. Pests of minor subtropical fruits. Literature cited. Index.

Note. About half of the space of this comprehensive work is devoted to background principles and to general information about insecticides, and the other half is devoted to descriptions of the pests (and their control) of specific fruits. The two chapters on citrus pests are the longest in the book. Control methods are described explicitly and recent developments in insecticides are taken into account. The book is based on teaching experience at the University of California, and is intended primarily for the use of students of applied entomology It is useful also as reference book. There are 570 figures and bibliography of 1032 citations.

FENTON, FREDERICK AZEL

Field crop insects. New York The Macmillan Company 1952 405 p. illus. 22 cm. $5 75 2711

Contents: Introduction. Insect abundance and distribution. Insect biology Insecticides. The application of insecticides. Crop [illegible] and dusters for insecticides. Physical and mechanical control. Cultural control. Biological control. Plant quarantines and pest control campaigns Leaf and plant destroying insects. Sap sucking insects. Fruit feeding insects. Soil inhabiting insects. Borers and other internal feeding insects. Feeders on floral parts and seeds. Feeders on broken seeds and farinaceous material. Index.

Note A general introductory treatment designed mainly for use in agricultural college courses. It covers both insects that attack growing crops in the field and those that attack storage grains. The descriptions of harmful insects occupy more than half of the book, but they include not only biological information but also specific discussions of methods of control. The author is Professor of Entomology in Oklahoma Agricultural and Mechanical College.

HOUGH WALTER SENEFF, AND A. FREEMAN MASON

Spraying, dusting and fumigating of plants. Principles and applications. Revised edition. New York The Macmillan Company 1951. 726 p. illus. 22 cm. $12.50 2712

Contents: Part I, Principles: Development of pest control on plants. Insecticides. Fungicides. Miscellaneous spray [illegible]. Compatibility [illegible] pesticides, and compatibility Spraying and dusting machines. Construction and operation of spraying and dusting equipment. Fumigation. Seed treatment for control of insects, diseases, and weeds. Part II, Application: Growth regulators. Herbicides. Seed treatment Bush-fruit and strawberry troubles. Orchard-fruit troubles. Vegetable and Grape troubles. Cranberry troubles. Citrus troubles. General [illegible] truck-crop troubles. Cotton troubles. Tobacco troubles. Index of [illegible] sect feeders. Poison baits. Appendix. Index of authors. Index of subjects.

Note: A comprehensive volume on the control of plant pests, diseases and weeds, in the United States and Canada. It has been completely rewritten from the original edition of 1928. In the first part up-to-date information is presented on all phases of the subject, including equipment, chemical compounds, and methods of application. Part two contains brief descriptions of diseases and destructive insects, with keys for diagnosis and discussions of best current remedies. The book contains many illustrations, charts, and formulas, and has bibliographical references in footnotes. It is practical book which has particular value as reference work for persons growing fruits and vegetables commercially and for persons working at agricultural experiment stations.

METCALF CLELL LEE, AND W P FLINT

Destructive and useful insects their habits and control. By C. L. Metcalf and W P Flint. Revised by R. L. Metcalf Third edition. New York McGraw Hill Book Company Inc., 1951 1071 p. illus. 24 cm. (Mc Graw-Hill publications in the agricultural sciences R. A. Brink, consulting editor) $10.00 2713

Contents: Insects as enemies of man. The value of insects to man. The external morphology of insects. The internal anatomy and physiology of insects. The mouth parts of insects. Development and metamorphosis. The place of insects in the animal kingdom. The orders of insects. Insect control. Apparatus for applying insecticides. Insects injurious to corn. Insects injurious to small grains. Insects injurious to legumes. Cotton insects. Tobacco insects. Insects injurious to vegetable gardens and truck crops. Insects injurious to deciduous fruits and bush fruits. Citrus insects. Insects attacking shade trees and shrubs. Insect pests of greenhouse plants and the flower garden. Household insects and pests of stored grains, seeds, and cereal products. Insects injurious to domestic animals. Insects that attack and annoy man and affect his health. Index.

Note: (4440) A thorough treatment of principles and practice in economic entomology which is used both as text in college courses and as reference manual and guide for agricultural extension workers, farmers, fruit growers, etc. The preceding edition was published in 1939. For this edition parts of the book were entirely rewritten, and other parts were substantially revised and augmented. The chapter on insect control, increased 40% in length, now contains descriptions including structural formulas of more than 180 substances used in the control of insects. The chapter on apparatus for applying insecticides has been completely modernized and new illustrations of the latest types of equipment have been added. Literature lists have been revised to include the recent literature. There are now 334 figures.

PAINTER, REGINALD HENRY

Insect resistance in crop plants. New York The Macmillan Company 1951 520 p. illus. 22 cm. $9 50 2714

Contents: Introduction. The mechanisms of resistance. Factors that affect the expression or the permanence of resistance. Resistance to insects in wheat. Resistance to insects in corn. Resistance to insects in cotton. Resistance to insects in sorghums. Resistance to insects in potato. Methods and problems in breeding for resistance to insects in crop plants. Selected supplementary bibliography Index.

Note: This book is comprehensive survey and digest of the published literature pertaining to the control of injurious insects by growing strains and varieties of crop plants that have high degrees of resistance to insect attack. Numerous examples of such resistance are known and the literature is voluminous. The author has summarized it under the headings noted above and has included references to the source articles. The specially titled "Selected supplementary bibliography" is supplementary to the extensive bibliographies appended to the chapters. The author has been the head of comparative study of insect resistance in crop plants at the Kansas Agricultural Experiment Station since 1926.

PYENSON LOUIS L.

Elements of plant protection. With line drawings by Emily B Steffens. New York John Wiley & Sons, Inc., 1951. 538 p. illus. 21 cm. (Wiley farm series) $4 96 2715

Contents (abridged): The external and internal structure of insects. The seasonal life history of insects. The relationship of insects to other organisms. Invertebrates other than insects harmful to plants. The chemical control of insects: the stomach poisons—the dormant and summer contact insecticides—fumigants and spray supplements—the new synthetic organic insecticides. Mammals and birds injurious to agriculture. Control of vertebrate animal pests. Plant diseases. Causes of plant diseases. The seasonal life history of pathogens. Viruses and physiopathies as the cause of plant diseases. The control of plant diseases. Plant treatments for disease control. Weeds. The reproduction of weeds. The elements of weed control. Chemical methods of weed control. Selective herbicides. Selective herbicides other than 2 4 D. Pre-planting and pre-emergence weed control. Application equipment. Selection, care, and manipulation of application equipment. Appendix: Selected reference books. Glossary Index.

Note: Brought together in this book is large fund of information on all types of plant pests, including insects, disease-producing organisms, rodents, birds, and weeds; the major pests and their control are well covered, but the author did not attempt encyclopedic treatment of all pests and all control measures. There are 50 tables and 216 drawings and photographs. The book is adaptable for introductory courses in economic entomology, plant pathology or weed control. While primarily intended for classroom use, the work is useful also in practical agricultural pursuits.

SHEPARD HAROLD HENRY

The chemistry and action of insecticides. New York McGraw Hill Book Company, Inc., 1951 504 p. illus. 24 cm. $7.50 2716

Contents: Introduction. Arsenical compounds. Fluorine compounds. Sulfur and its compounds. Copper compounds. Miscellaneous inorganic and metal-organic substances. Plant products: nicotine and other alkaloids. Pyrethrins, rotenone, and miscellaneous plant extractives. Petroleum, animal and vegetable oils, soaps, creosote. Synthetic organic insecticides. The chemical control of insects: general aspects. Relative toxicity and mode of action of insecticides. Attractants and repellents. Appendix. Index.

Note: A compact work suited especially to quick reference use in agricultural and technical libraries. Insecticides currently of importance are described as to their sources, chemical nature, uses, and toxicity. Special attention is given to toxic effects upon plants and animals. The chapters are essentially resumes of published literature including patents, and references to this literature are given both in the text and in the chapter bibliographies. The author is on the staff of the United States Department of Agriculture.

STEINHAUS EDWARD ARTHUR

Principles of insect pathology New York McGraw Hill Book Company, Inc., 1949 757 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $9.50. 2717

Contents: Introduction. Mechanical, physical, and chemical injuries. Diseases of nutrition and metabolism. The extracellular microbiota of healthy insects. Intracellular microbiota. Infection and epizootiology. Resistance and immunity. Symptoms and pathologies. Bacterial infections. Fungous infections. Virus infections. Protozoan infections. Nematode infections. Applied insect pathology and biological control. Author index. Subject index.

Note. An introductory but comprehensive survey of the diseases of insects and of the use of these diseases in the biological control of insect pests. The transmission of diseases to animals and plants by insects is not dealt with. The exposition is simple enough to make the book useful to students who have had basic courses in entomology. On the other hand, each chapter is followed by an extensive bibliography of the related literature. The work is both textbook and reference book, and the fully detailed indexes add to the reference feature. The author is Associate Professor of Insect Pathology in the University of California.

UNITED STATES DEPARTMENT OF AGRICULTURE

Insects. [Edited by Alfred Stefferud] Washington, D. C. Government Printing Office, 1952 780 p. illus. (part col d) 24 cm. (United States. Department of Agriculture. The yearbook of agriculture, 1952) $2.50. 2718

Contents (abridged) Introducing the insects: How many insects are there? by C. W. Sabrosky. Fossil insects, by F. M. Carpenter. How insects live, by E. O. Essig. How insects choose their food plants, by C. T. Brues. How to know an insect: What kind of insect is it? by C. F. W. Muesebeck. How to collect and preserve insects for study, by P. W. Oman. Insects as helpers: Insect friends of man, by F. C. Bishopp. Pollination by native insects, by G. E. Bohart. Breeding bees, by O. Mackensen and W. C. Roberts. Insecticides and bees, by F. E. Todd and S. E. McGregor. Insects to control weed, by J. K. Holloway and C. B. Huffaker. Insects as destroyers: Losses caused by insects, by G. J. Haeussler. Carriers of human diseases, by F. C. Bishopp and C. B. Philip. Insects and helminths, by E. E. Wehr and J. T. Lucker. Insects and the plant viruses, by L. D. Christenson and F. F. Smith. The nature of insecticides: How insecticides are developed, by R. C. Roark. The organic insecticides, by C. V. Bowen and S. A. Hall. The inorganic insecticides, by R. H. Carter. Aerosols and insects, by W. N. Sullivan and others. Applying insecticides: Using insecticides effectively by E. J. Newcomer and others. Research on aerial spraying, by J. S. Yuill and others. Machines for applying insecticides, by H. Ingerson and F. Irons. Warnings as to insecticides: Toxicity to livestock, by R. D. Radeleff and others. Residues, soils, and plants, by V. R. Bunnell. Residues on fruits and vegetables, by B. A. Porter and J. E. Fahey. Insecticides and the pure food law by P. B. Dunbar. Resistance to insecticides. Insects are harder to kill, by B. A. Porter. Fumigants: Fumigating soils and plants, by R. Latta and M. C. Lowe. Fumigating stored foodstuffs, by R. T. Cotton. Quarantines. How insects gain entry by E. R. Sasscer. Our domestic quarantines, by H. J. Conkle. Inspections at terminals, by A. P. Messenger. Other controls: Insects, enemies of insects, by R. D. Burks. Parasites and predators, by C. P. Clausen. Infectious diseases of insects, by E. A. Steinhaus. The vapor-heat process, by A. C. Baker. Cold treatment of fruits, by H. H. Richardson. Radiant energy and insects, by A. H. Yeomans. Weather and climate, by H. B. Mills. Resistant crops, the ideal way by C. M. Packard and J. H. Martin. Economic entomology: Surveys of insect pests, by G. J. Haeussler and R. W. Leiby. The insecticide industry by L. S. Hitchner. The industrial entomologist, by E. M. Searls. Extension work in entomology by M. P. Jones. Insects, man, and homes: Household insects, by L. S. Henderson. Mosquitoes, by H. H. Stage. Insects on cotton: Progress in research on cotton insects, by C. F. Rainwater. The pink bollworm, by L. F. Curl and R. W. White. Insects and vegetables: Potato aphids, by W. A. Shands and B. J. Landis. Sweetpotato weevil, by R. A. Roberts. The pea aphid, by J. E. Dudley Jr., and W. C. Cook. The beet leafhopper, by J. R. Douglass and W. C. Cook. Insects on fruits: The oriental fruit fly by W. Carter. The Mexican fruit fly, by P. A. Hoidale. The Japanese beetle, by C. H. Hadley and W. E. Fleming. Insects on field crops: Cereal and forage insects, by C. M. Packard. Grasshoppers, by J. R. Parker. The Mormon cricket, by C. Wakeland and J. R. Parker. The chinch bug, by C. Wakeland. The European corn borer by W. G. Bradley. Insects that attack tobacco, by D. J. Caffrey. Pests on ornamentals: Insect pests of flowers and shrubs, by C. A. Weigel and R. A. St. George. Livestock and insects: Flies on livestock, by G. W. Eddy. Ticks, lice, sheep keds, mites, by E. F. Knipling. Screw-worms, by W. G. Bruce. Cattle grubs, by E. W. Laake and I. H. Roberts. Forests, trees, and pests: The spruce budworm, by R. C. Brown. Bark beetles in forests, by F. P. Keen. The gypsy moth, by J. M. Corliss. Insects and wildlife. Insects and the lower vertebrates, by O. B. Cope. Bibliography and appendix. A selected list of publications, by L. L. Hawes and J. S. Wade.

Note: A cyclopedic work on applied entomology. Agricultural aspects are emphasized but there is also much material on general phases, such as the relation of insects to disease. Although the authors include many outstanding entomologists, the work is addressed to farmers, amateur collectors, and general readers rather than to professionals. Seventy-two colored plates, each of which illustrates a different insect in various stages of its development, are included.

WESTCOTT CYNTHIA

The plant doctor the how why and when of disease and insect control in your garden. Revised edition 1950 with a calendar for the Northeast and special chapters for other sections. Line drawings by the author Philadelphia, New York J B Lippincott Company 1950. 231 p. illus. 21 cm. $3.00 2719

Contents: The plant doctor's calendar: February March. April May. June. July August. September. October November. Special troubles in the Middle West. Special troubles in the Southeast. Special troubles in the Southwest. Special troubles in California. Special troubles in the Northwest. Alphabetical miscellany. List of agricultural experiment stations. Index.

Note An established reference handbook used by non-commercial gardeners in the United States of America. It presents a considerable range of simple practical information on insecticides application and other control measures. The first edition was limited to the north-eastern United States, but the book now covers the whole nation. However that portion which is arranged by calendar month still relates only to the area around New York City. The alphabetical miscellany is an extensive list of common garden plants with their diseases and descriptions of the preferred treatments. Although of no use to the specialist, the book is a handy one for its intended audience.

FIELD AND VEGETABLE CROPS

AHLGREN GILBERT HAROLD

Forage crops. New York McGraw-Hill Book Company, Inc., 1949 418 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $5.50 2720

Contents. History and development. Geography and production. Influence of climate and soil. Expansion of alfalfa. Growing alfalfa. Red clover production. Alsike clover. Ladino clover. The sweet clovers. The lespedezas. The kudzu vine. Soybeans and cowpeas. Crimson clover the vetches, and field peas. Timothy culture. Kentucky bluegrass. Lowland grasses. Orchard grass, tall oatgrass, and tall fescue. Prairie hay Johnson and bermuda grass. Sudan grass and sorgo. The millets. Cereal hay crops. Identifying the plants. Know the seeds. Hay mixtures. Multiple-purpose mixtures. Soil-improvement practices. Seedbed preparation. Selected seed. Seed placement. Companion crops. Hay standards. Quality production. Brome hay. Growing silage crops. Making grass silage. Grassland farming. Insects good and bad. Some important diseases. Plant-breeding contributions. Seed production. Index.

Note An agricultural college textbook designed as an introduction to the subject. It deals with those grasses and legumes "harvested by man and later fed to livestock." It is of course limited to forage crops of some agricultural importance in the United States of America. In general, for each crop, the history of its introduction as a forage crop is outlined, its requirements as to soil and climate are described, data are given on yields, on protein content, and on general forage qualities. These topics and other related ones are treated concisely with much of the information condensed in tables. However each chapter is supplemented with an adequate list of references. The author is a member of the faculty of Rutgers University

ANDREWS WILLIAM BAKER, editor

Cotton production, marketing and utilization State College, Mississippi W B Andrews 1950 476 p. illus. 24 cm. $4.50. 2721

Contents: Shifts in cotton production among and within states, and some related factors, 1800–1949, by H. P. Todd. Cotton varieties and breeding, by J. F. O'Kelly. The response of cotton to fertilizers, by W. B. Andrews. Cotton diseases, by A. L. Smith. Cultural practices, by H. P. Smith. Cotton insect control, by W. B. Andrews. Harvesting cotton, by H. P. Smith. Cotton ginning, by C. A. Bennett. Warehousing for market, by J. H. Todd. Cotton fiber technology by F. L. Gerdes. Cotton classing and standardization, by A. B. Cox. Cotton markets and marketing, by A. B. Cox. The spinning, weaving, finishing and marketing of cotton products, by J. F. Bodgen and others. Uses of cotton and its substitutes, by E. B. Evans. World cotton production and trade, by D. S. Murray. Cottonseed, by J. F. Moloney. Index of authors. Index of subjects.

Note The editor of this work is associated with the Mississippi Agricultural Experiment Station, and other contributors are associated with agricultural colleges, the U. S. Department of Agriculture, or with associations such as the National Cottonseed Products Association. A compact style is used in most of the chapters and a wide range of information is presented. Recent developments, such as mechanized cotton picking, are described along with long established techniques. Each chapter is supplemented by a useful bibliography

BANADYGA ALBERT ALEXANDER

Cucumbers for pickles a 1948 survey of literature dealing with their production. Oak Park, Illinois National Pickle Packers Association 1949 276 p. 24 cm. $3.00. 2722

Contents: Introduction—Importance and distribution of pickle industry. Cultural practices. Diseases. Insects. Flower ratios. Physiology breeding, and genetics. Varieties. Summary Bibliography—cucumber references. Appendix: Reports by stations.

Note: In the first part of this book the available information on the culture and breeding of pickle cucumbers is summarized. In the second part the international literature down to 1948 is listed with the usual bibliographical details. Although the book contains information that is valuable to farmers, it is intended more for agricultural extension workers and others who are professionally concerned with the growing of pickle cucumbers. The pickling of cucumbers is not included.

BARNHART, FLOYD

Cotton. Fourth edition second printing. Revised and enlarged. Caruthersville, Mo. The author 1952 390 p. illus. (part col d) 24 cm. $3.50. 2723

Contents: The place of cotton. Cotton crop reports. Estimating yield of cotton. Judging and exhibiting cotton stalks and bolls. Elementary cotton marketing. Some factors which lower the grade of cotton. Harvesting cotton. Ginning. Soils, their composition, formation, and classification. Soil, some important factors for farmers. Fertilizers. Types and varieties of cotton. Selecting, delinting, and treating planting seed. Preparing soil for planting. Planting cotton. Cultivation of cotton. Structure and development of insects. Cotton insects and their control. Diseases of cotton, by G. M. Watkins. Appendix: Use of geese for Johnson grass control. Recent changes in cotton acreage in ten southern states, by H. P. Todd. Line-diagram method for the setting of farm implements, by W E. Meek, and R. B. Ewing. Smith-Deary act. Index.

Note: A practical handbook and textbook which has gone through four editions since it was first published in 1940. It was written especially for use in the vocational agriculture departments of secondary schools throughout the cotton belt of the United States. Organized with the assumption that teaching of the subject will begin in the fall, the chapters are arranged in such manner that those jobs which should be studied in the fall appear first. The fourth edition is revised in the following respects: certain data brought up to 1951; new pictures added, newer insecticides, sprays, and spray rates presented; state recommendations for insect control changed from those of 1949 to those for 1951; new chapter added, entitled Diseases of cotton.

BROWN HOWARD DEXTER, AND CHESTER S HUTCHISON

Vegetable science. Edited by R. W Gregory Philadelphia J B Lippincott Company 1949 452 p. illus. 24 cm. $6.00 2724

Contents: The importance of vegetables. Food value of vegetables. Cost accounts. Vegetable classification. Soils and fertilizers. Green manures. The growing environment. Plant growing and plant-growing structures. Equipment. Irrigation and drainage. Storage of vegetables. Seed production and plant breeding. Disease and pest control. Marketing vegetables. Home gardening. The potato. Sweet potato, yam, taro, and dasheen. Tomatoes, eggplant, and peppers. Beans and peas. Cole crops. Perennial crops. Sweet corn and popcorn. Cucurbits or vine crops. Salad crops. Greens. Root crops. Bulb crops. Index.

Note: An introductory text which is however sufficiently inclusive and detailed to make it of value to practical farmers. Agricultural practices which conserve the soil and at the same time permit the economical production of vegetable crops are emphasized. One hundred fifty-four figures, the majority of which are reproductions of photographs, 45 tables, and selected lists of literature references supplement the exposition. The authors are members of the faculty of Ohio State University

HUGHES HAROLD DE MOTT, AND OTHERS editors

Forages the science of grassland agriculture. Under the editorial authorship of H. D Hughes, Maurice E. Heath, and Darrel S Metcalfe. Ames, Iowa The Iowa State College Press, 1951. 724 p illus. 26 cm. $6 75 2725

Contents: Part I, Forages and productive agriculture: Forages in our advancing civilization, by H. D. Hughes. What is grassland farming? by M. E. Heath. Economic aspects of forage production, by E. O. Heady Forages and soil conservation, by G. M. Browning. Soil fertility and the nutritive value of forages, by R. L. Lovvorn and W W Woodhouse, Jr Forage statistics, by D. S. Metcalfe. Part II, Forage grasses and legumes. The botany of grasses and legumes, by D S. Metcalfe. Legume and grass seed production, by E. A. Hollowell. Forage crop breeding, by I. J. Johnson. The inoculation of legumes, by O. N. Allen. Alfalfa, by H. M. Tysdal. Red clover and alsike clover by C. P Wilsie. Sweetclover by W K. Smith. Ladino and other white clovers, by E. A. Hollowell. Lespedeza, by C. A. Helm. Crimson clover by E. A. Hollowell. Birdsfoot trefoil, by H. D. Hughes and H. A. MacDonald. The vetches, by R. McKee. Other legumes, by R. McKee. The bluegrasses, by E. N. Fergus. The brome grasses, by L. C. Newell and K. L. Anderson. Timothy by M. W Evans. Orchardgrass, by W M. Myers. Bermuda grass, by G. W Burton. Dallisgrass, Bahiagrass, and Vaseygrass, by H. W Bennett. Reed canarygrass, by M. E. Heath and H. D. Hughes. The fescues, by R. Y Bailey. The ryegrasses, by H. A. Schoth. Redtop and the bentgrasses, by J A. De France. The wheatgrasses, by C. McKee. Johnsongrass, carpetgrass, and other grasses for the humid South, by H. W Bennett. Other grasses for the North and West, by V R. Hawk. Cereals as forage, by M. A. Sprague. Sorghums for forage, by J. R. Quinby and R. E. Karper Millets and kochia, by W W Worzella. Rape, kale, and similar forages, by C. S. Dorchester Part III, Forage production practices: Soil, climate, and use in choosing forage crops, by G. S. Axelrod. Establishment of new seedings, by C. J. Willard. Fertilization of forages, by G O. Mott. Weed control in forages, by C. J. Willard. Hay and pasture seedings for the Northeast, by V G. Sprague. Hay and pasture seedings for the Central and Lake states, by H. L. Ahlgren. Hay and pasture seedings for the humid South, by D. G. Sturkie. Hay and pasture seedings for the northern Great Plains and Intermountain states, by L. C. Newell. Hay and pasture seedings for the southern Great Plains, by R. C. Potts. Hay and pasture seedings for the Pacific Coast states, by A. L. Hafenrichter. Part IV Forage utilization What is quality hay? by G. Bohstedt. Mechanization of haymaking and storage, by K. L. Barger. Grass-legume silage, by C. B. Bender Dehydration of forage crops, by R. E. Silker Emergency hay and pasture crops, by A. C. Arny Permanent pastures, by M. A. Hein. Rotation pastures, by D R. Dodd. Range pasture, by D A. Savage. Irrigated pastures, by M. L. Peterson. Forages for dairy cattle, by R. E. Hodgson. Utilization of forages with beef cattle, by R. F Fanfaloon. Sheep are efficient users of forages, by W G. Kammlade. Forage utilization by hogs, by G. O. Mott. Forage for poultry by D. C. Kennard. Terminology Author index. Subject index.

Note: Each of the short chapters in this comprehensive work was written for it by a college professor or other specialist who is recognized as an eminent authority on the specific topic of his chapter. The typical chapter is short but the main facts are always presented and each chapter is supplemented by references to longer treatments in professional periodicals. The book is organized so that it may be used as a text in agricultural colleges However it is also a useful reference manual for agricultural leaders and others in need of specific information about forage grasses.

MARTIN JOHN HOLMES AND WARREN H. LEONARD

Principles of field crop production. New York The Macmillan Company 1949 1176 p. illus. 22 cm. $6.50. 2726

Contents (abridged) Part I, General principles of crop production. Crop plants in relation to environment. Botany of crop plants. Crop improvement. Tillage practices. Fertilizer, green-manuring, and rotation practices. Seeds and seeding. Harvest of field crops. Pastures and pasturage. Weeds and their control. Part II, Crops of the grass family: Indian corn or maize. Sorghums. Sugarcane. Wheat. Rye. Barley Oats. Rice. Millets. Perennial forage grasses. Part III, Legumes: Alfalfa Sweetclover The true clovers. Lespedeza. Soybeans. Cowpeas. Field beans. Peanuts. Miscellaneous legumes. Part IV Crops of other plant families: Buckwheat. Flax. Cotton. Tobacco. Sugar beets. Potatoes. Miscellaneous industrial crops. Sweetpotatoes. Part Appendix: Seeding; seed and plant characteristics. The percentage composition of crop products. Glossary Index.

Note: An introductory but fairly inclusive textbook for use in agricultural courses. Somewhat less than one-third of the space is given to discussions of general principles and practices. The remainder of the space is occupied by descriptions of both major and minor crop plants. The discussions of the major plants are fairly long and are organized under subheadings such as, economic importance, adaptation, origin and history botanical description, general description, cultural and harvesting practices, uses, diseases and finally literature references. Crops of lesser importance are discussed somewhat more briefly The first-named author is senior agronomist in the Bureau of Plant Industry of the United States Department of Agriculture; the second is Professor of Agronomy in Colorado Agricultural and Mechanical College.

ments. As factual information and illustrative material the author presents material which he has found useful in the presentation of the subject at Michigan State College. This edition contains newly added chapters on hormones and on the control of weeds.

HUME, HAROLD HARDRADA

Camellias kinds and culture. New York The Macmillan Company 1951 271 p. illus. (part col'd) 23 cm. $6.50 2738

Contents: Camellia geography Camellia history Camellia botany Camellia classification. Japonica camellias. Sasanqua varieties. Miscellaneous camellias. Naming camellia varieties. Propagating camellias. Soils and soil fertility Planting camellias. Fertilizing camellias. Culture and care. Pruning and training. Camellias in gardens. Pot and greenhouse culture Camellia diseases. Insects and mites. Index.

Note. A comprehensive book on the history and classification, kinds and varieties, and propagation and culture of camellias. The author writes in [illegible] fashion to be helpful to amateur camellia growers and covers all the details of care of the plant necessary to the achievement of success in the raising of this flower. The introductory chapters on the geography history and botany of the camellia cover about 40 pages, the remainder of the volume is about equally divided between the descriptions of the varieties of camellias and the methods of culture. The work is handsomely illustrated with eight plates in full color and many others in black and white.

LAURIE, ALEX AND VICTOR H RIES

Floriculture fundamentals and practices. Second edition. New York McGraw Hill Book Company Inc. 1950 525 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink consulting editor) $6.00 2739

Contents: How plants grow. Soils. Fertilizers. Horticultural taxonomy Bulbous culture. Cold frames, hotbeds, and greenhouses. Garden design Propagation of plants. Lawns. Annuals Perennials. Flowering bulbs The rock garden. Roses. Water gardening. Woody plants. House plants. Insect pests and plant diseases. Greenhouse management Index

Note. (1947) A standard work used both as [illegible] text in agricultural colleges and as [illegible] manual of practical information by persons with interests in commercial floriculture. The treatment of most topics is concise hence considerable range of information is included, some of it very specific Bibliographies are included. The greater part of the text is unchanged from that of the first edition published in 1942 but important revisions have been made in some parts as in the discussion of pest control.

LEVISON JACOB JOSHUA

The home book of trees & shrubs. A complete guide to the design, planting and care of the home grounds, with information on lawns, woodlands, flower borders, garden accessories and the identification of trees. Second edition, completely revised enlarged, and reset. New York Alfred A. Knopf 1949 524 p. illus. 28 cm. $10 00. 2740

Contents: What trees can teach us Structure and habits of trees and shrubs. Types and kinds of trees and shrubs. Planning the home grounds. When and how to plant. Trees and shrubs for every purpose Trees and shrubs for color Worth-while, interesting trees and shrubs not commonly seen. The care of trees and shrubs Pruning, wounds, cavities, and bracing. How to control insects and diseases. The ailments of trees and shrubs Common insect pests. Common diseases. The wooded portion of the place Lawns Flower borders, herbs, and wild gardening Accessories. How to identify some of the most common trees. Some good books on trees and shrubs. Common names and botanical equivalents Index

Note. This guidebook by [illegible] distinguished arboriculturist is reference tool which will serve the homeowner amateur and professional gardener and landscape designer A reference book in which trees and shrubs are discussed from the standpoint of their characteristics and uses in the landscaping of gardens and grounds around dwellings. Its basic purpose is to tell in detail how to select and handle trees and shrubs for the individual's own grounds and how to achieve good results most economically Related matters such as garden features are discussed briefly The illustrations include numerous reproductions of plantings and landscapes. Tables and outlines are used to advantage to clarify and summarize.

MUSSER, HOWARD BURTON

Turf management. A publication of the United States Golf Association. Foreword by James D Standish, Jr New York McGraw Hill Book Company Inc. 1950 354 p. illus. 24 cm. $7.00. 2741

Contents. Broad relationships in the production of special-purpose turf. Soil and turf relationships. Fertilizers and lime in turf production. Drainage and irrigation. Special purpose turf grasses. Turf propagation. Turf maintenance. Weed control. Turf diseases and related damage. Control of insects and other pests. Elements of golf-course design. Golf-course operation. Appendix. Index.

Note This book which is devoted exclusively to the establishment, care, and upkeep of golf turf, public park lawn, and other large areas of turf grasses was prepared under the sponsorship of the United States Golf Association. It is an authoritative presentation of all phases of large-scale turf development and maintenance with the most emphasis on golf course grass problems. There is no bibliography The appendix contains lists of fertilizers, liming and soil amendment materials, turf weeds, weed-control chemicals, and tabulated information on various grasses. The author is Professor of Agronomy at Pennsylvania State College.

NORTHEN, REBECCA TYSON

Home orchid growing. New York D Van Nostrand Company, Inc. 1950. 286 p. illus. 23 cm. $6.50. 2742

Contents Orchids as [illegible] hobby Adult cattleyas and their care. The cattleya species. Hybrids. Seedlings from flask to community pot. Seedlings from community pot to first bloom. Growing and sowing your own seed. The orchid tribes; the aerides tribe. The cattleya tribe. The cymbidium tribe. The cypripedium tribe. The dendrobium tribe. The odontoglossum tribe. Collectors' items. Mass and [illegible] studies. Diagnosing orchid ailments. Housing your orchids. The care and use of cut flowers. Bibliography Appendices: Key to the tribes and genera of the orchid family Sources of orchid plants and supplies. Index.

Note An explicit, practical guide for amateur growers, especially those who wish to grow orchids in their homes and in small greenhouses on [illegible] non-commercial basis. The illustrations include ten plates in color and several hundred black-and-white illustrations. The author wife of Henry T Northen, Professor of Botany in the University of Wyoming, is an eminent amateur grower of orchids.

SIMON MARON J., AND OTHERS

The complete garden handbook, by Maron J Simon, John Elliott, Dickson W Pierce, and Beatrice P Hendrix. Botanical consultant G L. Wittroch. New York D Van Nostrand Company Inc., 1950. 451 p. illus. (part col d) 22 cm. $5.00. 2743

Contents: A planting plan for your property. How to work a flower garden. Flowering plants for the home garden. Roses. Trees, shrubs, and lawns. A small orchard for the home. How to work a vegetable garden. How to buy woody plants. Garden pests and their controls. Flower arrangements. Plants for indoors. Garden aids at a glance Index.

Note An inclusive handbook on the growing of flowers, bushes, trees, lawns, fruits, and vegetables for amateur gardeners. Features worthy of note are simple directions, comprehensive coverage from original planning to the art of flower arrangement, emphasis on the practical, and 31 excellent color plates. Every flowering plant or shrub of importance in gardens in the United States of America is treated in [illegible] brief separate article, with directions for kind of soil, location, planting, culture, and the varieties best suited to various parts of the country The final chapter includes outline maps of the United States showing frost and planting times, transplanting seasons, weather conditions, etc A key to the detailed contents of the manual is provided by the index.

WYMAN DONALD

Trees for American gardens. New York The Macmillan Company, 1951. 376 p. illus. 24 cm. $7.50. 2744

Contents: Introduction. Hardiness. Order of bloom. Ornamental fruits. Foliage colors. Trees for urban purposes. Street and highway planting. One hundred tree champions. Dwarf trees. General list of recommended trees. Secondary list of trees. Index.

Note: Essentially a reference manual for landscape architects, nurserymen, and amateur gardeners concerned with selecting trees to meet specific growing conditions or produce desired landscaping effects. Seven hundred and forty-five species of trees are described and grouped according to degree of hardiness, date of blooming, autumn coloration, and other characteristics important in gardening. Emphasis is placed on the landscaping qualities of the trees, and only brief attention is given to planting methods and general care.

FRUIT CULTURE

BROOKS REID MERRIFIELD AND H. P OLMO
Register of new fruit and nut varieties, 1920–1950 By Reid M Brooks and H. P Olmo with the assistance of cooperating horticulturists. Berkeley Calif University of California Press, 1952 206 p 24 cm. $3.00 2745

Contents: Register of varieties: Almond. Almond-peach. Apple. Apricot. Avocado. Blackberry. Blueberry. Butternut. Carissa. Carob. Cherimoya. Cherry. Cherry plum. Chestnut. Cranberry. Currant. Date. Elderberry. Fig. Filbert. Gooseberry. Grape. Grapefruit. Guava. Hickory. Lemon. Lime. Mango. Natal plum. Nectarine. Orange. Orangequat. Papaya. Peach. Pear. Pecan. Persimmon. Plum. Plumcot. Pomegranate. Prune. Quince. Raspberry. Strawberry. Tangelo. Tangerine. Tangor. Tung. Walnut. White sapota. Patented varieties. Varieties by place of origin. Index.

Note: A compilation of lists of new varieties of fruits and nuts originated in North America during the years 1920 to 1950 inclusive. The lists were published originally in the *Proceedings* of the American Society for Horticultural Science. Information given for each variety includes place and date of origination, name of originator, date of commercial introduction, U S. A. patent number with assignment if any, parentage when known, brief description or characteristics of fruit and tree, and time of bearing, when significant. The lists were compiled with the cooperative assistance of 86 American and Canadian horticulturists located in 42 states and 4 provinces. Varieties are included only if they have shown promise of becoming commercially important or appear to have unusual characteristics useful to the breeder of new forms.

CHANDLER, WILLIAM HENRY
Deciduous orchards. Second edition, thoroughly revised. With 113 illustrations. Philadelphia Lea & Febiger 1951 436 p. illus. 24 cm. $6.50. 2746

Contents: Part I, The tree and its flowers and fruit. The deciduous orchard tree. Deciduous orchard buds. Classification of deciduous orchard trees. Growth and flower bud formation. Pollination and the setting of fruit. The growing fruit. The mature fruit. Part II, Deciduous orchard environments: Climate for deciduous orchards. Deciduous tree roots and the soil. The water supply in tree and fruit. Nutrients for trees. Essential elements and some others that influence trees. Part III, Growing and training deciduous orchard trees. Propagation of deciduous orchard trees. Transplanting trees from the nursery to the orchard. Response of deciduous trees to pruning. Part IV. Deciduous orchard species. Pome fruits. Stone fruits. The mulberry and the fig. The persimmon, the northern papaw and some other fruits. Edible nut trees. The tung-oil tree. Recent papers. Index.

Note: (4930) A standard textbook used in courses in fruit growing in agricultural colleges. Although some information on cultural practices is included, the main emphasis is on background information such as the processes of flower bud formation, pollination, the shaping of fruit tree nutrition, and influence of climate, etc. The first edition was published in 1942. This edition has almost the same number of pages; nevertheless important revisions have been made in all chapters. References to 370 recent papers have been incorporated in the text. However several bibliographies appended to chapters were not revised although the need for revision is evident.

CHILDERS NORMAN FRANKLIN
Fruit science orchard and small fruit management. Edited by R. W Gregory Philadelphia J B Lippincott Company, 1949 630 p. illus. 24 cm. $6.00 2747

Contents. Introduction. Establishing the fruit planting. Apple regions, production and varieties. Pruning apple trees. Soil management for apples. Flower-bud formation, pollination, and fruit set in the apple. Thinning apple fruits. Grafting and budding apple trees. Freezing injury to apples. Harvesting and packing apples. Storing apples. Marketing apples. Pear and quince culture. Peach, nectarine, apricot, and almond. Culture of plums. Cherry culture. Control of insects and diseases. Judging contests and exhibitions. Freezing preservation of fruits. Grape growing. Strawberry growing. Bush berry culture. Appendix. Index.

Note A practical text written by a staff member of the New Jersey Agricultural Experiment Station. Designed primarily for use in agricultural college courses, enough matter has been included to make it useful also in agricultural extension work and as orientation for young farmers who are thinking of growing fruit. There are 304 figures, many of which have been reproduced from photographs, more than 40 tables, and a useful selected list of pertinent books, government publications, and current journals.

DARROW GEORGE MCMILLAN AND OTHERS
Blueberry growing by George M. Darrow J B Demaree, and W E. Tomlinson, jr Revised 1951 Washington, D C. Government Printing Office 1952 53 p. illus. 23 cm. (United States. Department of Agriculture. Farmers' bulletin no. 1951) Paper $0.20 2748

Contents (abridged) Development of the blueberry industry Important species. Lowbush blueberry Highbush blueberry Dryland blueberry Evergreen blueberry Mountain blueberry Rabbiteye blueberry Highbush varieties and their culture Soil and climatic requirements. Varieties and their characteristics. Need for cross-pollination. Growing and care of seedlings and native plants. Planting and cultivation. Maintaining soil fertility Good drainage essential. Irrigation often profitable. Mulching. Pruning. Harvesting and marketing. Yields. Uses. Blueberry diseases. Blueberry insects.

Note. A summary of information on selecting and growing blueberries in home gardens and commercial plantings and protecting them from diseases and insects. Most of the space is given to the highbush varieties, which are the chief varieties grown commercially in the United States.

EDMOND JOSEPH B AND OTHERS
Fundamentals of horticulture a textbook designed for courses in general horticulture. By J B Edmond A. M. Musser, and F S. Andrews. New York The Blakiston Company 1951 502 p. illus. 24 cm. $5.50 2749

Contents (abridged) Part I, Plant growth and development: Fundamental plant processes, tissues, and structures. The water supply The nutrient supply Part II, Principal horticultural practices Propagation Climates, sites, and soils. Plant growing structures Transplanting—cultivating—irrigating. Pruning. Control of pests. Preservation. Part III, Principal horticultural crops: The tree fruits. Grapes, and small fruits. Nut fruits—subtropical fruits—tung Vegetable crops Commercial floriculture. The nursery plants. Horticulture and the home Index.

Note An introductory textbook on the growing of fruit, flower, and vegetable crops. Basic information on plant growth and on practices that are common to the production of many crops is emphasized. The authors are members of the faculties of colleges in the southern United States of America, and the book deals mainly with the horticulture of that region.

GARRIS EDWARD WALTER, AND H S WOLFE
Southern horticulture management. Edited by R. W Gregory Philadelphia J B Lippincott Company 1949 564 p illus. 24 cm. $4.00 2750

Contents (abridged) Part I, General principles: The growth and function of plants. The propagation of plants. Soils—selection, fertility and management. The control of insects and plant diseases. The conservation of fruits and vegetables. Part II, Vegetable crops: Asparagus. Beans. The cabbage family Celery Sweet corn. Eggplant

and peppers Greens. The lettuce family. The melon family. Onions. English peas. Irish potatoes. Sweet potatoes. Tomatoes. Part III, Fruit crops: The apple and pear. The peach. The citrus fruits. The strawberry. Grapes. The pecan. The fig. Bramble fruits. The oriental persimmon. Tropical fruit. Plums and cherries. Blueberries. Part IV Ornamental plants and flowers. Index.

Note. The Head of the Department of Agricultural Education and the Head of the Department of Horticulture of the University of Florida collaborated in the writing of this practical, introductory text. The practices and crops described are those which are useful in the southern states of the United States of America. The book is written in simple style. Numerous tables are used to summarize information on production, uses, seasons for planting, cultivation, thinning, harvesting of particular crops. Useful lists of government publications of the national and state governments are appended to the chapters.

ROSE, DEAN HUMBOLDT AND OTHERS

Harvesting handling and transportation of citrus fruits a digest of information on the subject published mostly from 1938 to 1948. By Dean H. Rose, Harold T Cook, and W H. Redit. Washington D C. Government Printing Office, 1951 178 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no 13) Paper $0 40 2751

Contents: Introduction. Harvesting and handling. Small sizes. Harvesting. Degreening. Grading. Packaging and packing. Storage. Maturity and quality. Composition. Vitamins. Transportation. Post harvest diseases and their control. Diseases and injuries. Detection of blemishes and diseases by X-rays and ultraviolet light. Chemical treatments for controlling postharvest decay. Insect damage affecting market quality.

Note. The second publication in a series of digests reviewing and listing the literature concerning the postharvest handling and treatment of important horticultural crops. The publication gives a digest of information from recent literature on the biology and care of mature citrus fruits—lemons, limes, grapefruit, oranges, and tangerines—and also presents bibliographies, by chapters, of the literature cited, which is extensive.

SHOEMAKER, JAMES SHELDON

General horticulture. Philadelphia J B Lippincott Company 1952 464 p illus 24 cm. $6 00 2752

Contents. The horticultural industry. Classification of horticultural plants. Structure of plants. Basic plant processes. Temperature, light, and water. Propagation of horticultural plants. Planting, fruit set, and harvesting. Soil management. Training and pruning. Preservation of horticultural products. Landscape gardening and design. Controlling diseases, insects, and weeds. Index.

Note. An introductory text which is devoted to basic matters such as plant anatomy, plant tropisms, seed production, plant training and pruning. These matters are related to horticultural practices, but the book is not a manual of practices. The chapter bibliographies list many specific works which amplify the general treatment of each section. The book is profusely illustrated with pictures and easily understood diagrams. The author is Head of the Department of Horticulture of Ontario Agricultural College.

SMOCK, ROBERT MUMFORD AND A. M NEUBERT

Apples and apple products. New York Interscience Publishers, Inc., 1950 486 p illus. 22 cm. (Economic crops a series of monographs on the chemistry physiology and technology of food and food products Z. I. Kertesz, editor) $8 75 2753

Contents (abridged). History and distribution of the apple. World distribution of apples. Distribution of the apple industry in the United States and Canada. Varieties of apples; Tree characteristics. Fruit characteristics. Development and structure of the apple fruit. Some environmental and cultural factors affecting the chemical composition and physiology of apples. Chemical changes and physiology of apple fruit on the tree. Chemical changes and physiology of apple fruit after harvest; Transportation (water loss). Carbohydrates. Acids. Nitrogen compounds. Minerals. Fats, oils, and waxes. Color compounds. Enzymes. Vitamins. Organic emanations from apples. Composition of internal atmosphere of apples. Respiration. Fruit maturity and quality. Prestorage treatments of apples. Cleaning apples. Grading apples. Wrapping and packing apples. Carbon dioxide treatment of apples. Precooling of apples. Storage of apples in fresh state. General consideration of apple products manufacture. Chemical constituents affecting products manufacture. Nutritional value of apples and apple products. Preparation and preservation of apples: Development of dried, canned, and frozen apples. Apples used for drying, canning, and freezing preservation. Fruit preparation. Preservation by drying. Preservation by canning. Preservation by freezing. Preservation with chemicals. Apple juice, sirup, and concentrate. Fermentation products of apples. Cider. Apple wine. Apple brandy. Industrial alcohol. Cider vinegar. Miscellaneous fermentation products. Jelly, butter, and other apple confections. Apple pomace. Composition. Preservation. Utilization. Appendix. Author index. Subject index.

Note: In this treatise the chief emphasis is on the chemistry, physiology and processing of the apple fruit after it has been harvested. However certain preharvest aspects which affect the chemistry and physiology after harvest are discussed. The chapters pertaining to storage and to the manufacture of apple products account for more than half of the book's length. Much of the information on manufacture has been collected from such sources as patents and articles in journals. There are over 900 literature references.

BEEKEEPING

GROUT ROY A, editor

The hive and the honey bee, a new book on beekeeping to succeed the book "Langstroth on the hive and the honeybee." Edited by R. A. Grout with the collaboration of a staff of specialists. Revised edition. Hamilton, Ill. Dadant & Sons 1949 652 p. illus. 24 cm. $4 00 2754

Contents: The beekeeping industry, by R. A. Grout. Races of bees, by A. Z. Abushady. The honey-bee colony—life history, by O. W Park. Activities of honey bees, by O. W Park. The honeycomb, by H. C. Dadant. Beekeeping equipment, by H. C. Dadant. First considerations in keeping bees, by G. H. Cale. The apiary, by M. G. Dadant. Common practices in management, by G. H. Cale. Management for extracted honey production, by G. H. Cale. Extracting the honey crop, by R. A. Grout. The production of comb honey, by C. E. Killion. The production of bulk comb honey, by M. L. Lyle. The overwintering of productive colonies, by C. L. Farrar. Honey, by V. G. Milum. Marketing the honey crop, by R. B. Willson. The honey bee as a pollinating agent, by J. L. Hambleton. Sources of nectar and pollen, by F. C. Pellett. The anatomy of the honey bee, by R. E. Snodgrass. Production and uses of beeswax, by R. A. Grout. The production of queens and package bees, by M. G. Dadant. Injury to bees by poisoning, by J. E. Eckert. Diseases and enemies of the honey bee, by A. P. Sturtevant. Index.

Note. A comprehensive manual in which the emphasis is definitely on the practical aspects of beekeeping but in which there is also considerable discussion of biological aspects. It goes back to the first edition, published in 1853, of L. L. Langstroth's *Langstroth on the hive and the honeybee* and includes numerous editions of that classic revised by Langstroth during his lifetime and later by Charles Dadant and C. P Dadant. In 1946 the first edition in which the chapters were written by a number of contributors appeared; and this edition is the first revision of it. In comparison to the 1946 edition there are three new chapters—those by Abushady, Willson and Hambleton—and extensive revisions have been made in several of the other chapters. There are now 303 figures, and several of the authors have documented their chapters with footnote reference to pertinent literature.

KILLION CARL EVEREST

Honey in the comb Paris Illinois Killion & Sons Apiaries, 1951 114 p. illus. 24 cm. $3 00 2755

Contents: Comb honey. Choosing a location. Comb honey equipment. Colony management. Care and storage of comb honey. Marketing comb honey. Bulk comb honey. Beekeeping records. The future for comb honey. Index.

Note: In this book the author, an experienced apiarist who has specialized in the production of comb honey, covers an aspect of

beekeeping which is not especially emphasized in comprehensive books on beekeeping. The equipment which this author has found best when comb honey is the primary product of apiary and practical techniques of producing comb honey are both described in factual style. There are 71 figures, all being reproductions of photographs.

ANIMAL HUSBANDRY

ANDERSON, ARTHUR LAWRENCE

Introductory animal husbandry Revised edition. New York The Macmillan Company 1951 701 p. illus. 24 cm. $6.25 2756

Contents (abridged) Part I, Cattle. A, Beef cattle: Beef type. Cattle markets. Market classification of cattle and cattle prices. Cattle slaughtering, processing, and by-products. Market classification of dressed beef and veal. Beef cattle feeding and management. Beef cattle breeding. B, Dairy and dual-purpose cattle Dairy type. Milk production and milk records. Dairy cattle feeding and management. Dairy cattle breeds and breeding. Part II, Swine: The lard-type and other types of American hogs. Bacon-type hogs. Market classification of hogs and hog prices. Swine feeding and management. Swine breeding. Part III, Sheep: Mutton-type sheep. Wool-type sheep. Sheep slaughter mutton and lamb, by-products from sheep slaughter. Sheep feeding and management. Sheep breeding. Part IV, Horses and mules: Draft horses. Farm and ranch horses. Light horses. Horse and mule markets. Unsoundness of the horse. Horse feeding and management. Horse breeding. Mules. References. Index.

Note: (4943) An established textbook for use in agricultural college courses. It is used also as reference manual in agricultural libraries and elsewhere. Leading types and breeds of domestic animals are described, but most of the space is devoted to marketing and other economic aspects. Even in the chapters on feeding and management, these aspects rather than farm practices are emphasized. The bibliography is limited to books.

ANDERSON, ARTHUR LAURENCE

Swine management, including feeding and breeding. Edited by R. W Gregory Philadelphia. J B Lippincott Company 1950. 531 p. illus. 22 cm. (Agricultural management series, prepared under the general supervision of R. W Gregory) $4.00 2757

Contents: The swine-raising industry Methods of hog raising and farming methods. Judging market hogs. Swine breeds. Breeding stock selection. The breeding season. The breeding herd, feeding and management. The farrowing and suckling period. Raising pigs on dry-lot. Raising pigs on pasture. Cereal grains and other basal feeds. The protein supplements, alfalfa meal, and similar feeds. Mineral and vitamin supplements. Pasture and forage crops for swine. Harvesting crops with hogs. Swine breeding. Swine shows and sales. Swine housing and equipment. Marketing hogs. Operating the swine enterprise. Slaughtering hogs. The control of diseases and parasites. Appendix. Index.

Note: Primarily textbook for students of agriculture, this volume covers the subject of modern swine husbandry from the practical rather than from the theoretical standpoint. Aside from its textbook value, the book should also be useful as reference work for hog raisers, meat packers, and manufacturers of equipment, feeds, and other products used by hog producers. The text contains 77 tables in addition to abundant photographic illustrations and at the ends of the chapters are suggestions for further study and bibliographic references. The publication replaces an earlier work of the same author entitled *Swine enterprises*.

BIEN CORABEL AND MARIE GOULD compilers

Tropical beef cattle industry in the western hemisphere. Washington, D C. Government Printing Office, 1952 157 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 19) Paper $0.40. 2758

Contents: General: Adaptation. South America. Central America. Mexico. United States. West Indies. Hawaii. Physiology hygiene and sanitation Physiology and morphology Diseases. Pests and parasites. Management: Breeding and breeds. Feeds and feeding. Pasture and range: Management. Fertilizers. Land clearing. Soils. Water. Browse. Forage plants. Poisonous plants. Weeds. Products. Index.

Note: A bibliography of 1749 numbered items, mostly dated between 1940 and 1950, pertaining to the beef cattle industry in the American tropics. Most of the references are in the English, Spanish, and Portuguese languages. The bibliography includes within its scope the economics of the industry the breeds adapted to warm humid climates, the care and management of beef cattle in the tropics, feeding and nutrition, diseases and parasites, pastures and forage plants. The index brings out important subjects in each publication, and includes also the names of authors, editors, and translators. Some of the references are annotated, and the longer references show contents or partial contents. Florida and the Mexican Gulf coastal regions of the United States are included, as are the West Indies and all of Central America and the northern half of South America, excepting Bolivia and Paraguay, which are omitted because climatic conditions in those two countries differ from those in the humid tropics.

BRIGGS, HILTON MARSHALL

Modern breeds of livestock. New York The Macmillan Company 1949 772 p illus. 24 cm. $6.00 2759

Contents. Section I, The breeds of cattle: Shorthorn. Polled Shorthorn. Hereford. Polled Hereford. Aberdeen-Angus. Galloway and West Highland. Brahman and associated breeds. Milking Shorthorn. Red Poll. Holstein-Friesian. Jersey Guernsey Brown Swiss. Ayrshire. The American dairy cattle. Section II, The breeds of hogs: Berkshire. Hampshire. Poland China. Spotted Poland China. Duroc. Chester White. Yorkshire and the Tamworth. Hereford, Minnesota No. 1, and Minnesota No. 2. Section III, The breeds of sheep and goats. Merino. Rambouillet. Southdown. Hampshire. Shropshire. Oxford. Dorset. Cheviot. Suffolk. Corriedale. Columbia, Targhee, Panama, Romeldale, and Montadale. The long-wool breeds. Karakul. Angora goat. The breeds of milk goats. Section IV The breeds of horses: Arabian. Thoroughbred. Standardbred. Hackney American saddle horse. American quarter horse. Morgan, Tennessee walking horse. Palomino. Percheron. Belgian. Shire, Clydesdale, and the Suffolk. The breeds of ponies. American Jack. Index.

Note: A reference manual in which breeds of livestock currently recognized and bred in the United States of America are described and their history outlined. Such points are covered as origin, foundation of the breed, activities of outstanding breeders, important breeding developments in the U. S. A. and elsewhere, the influence of outstanding individuals of the breed, descriptions of prominent families and herds, lists of champions and winners, history and activities of U S. A. associations concerned with the breed and, finally the titles of the U S. A. periodicals currently published about the breed. There are 391 illustrations, most of them are reproductions of photographs of outstanding animals. A few literature references are included as footnotes. The author is Associate Dean of the School of Agriculture of Oklahoma Agricultural and Mechanical College.

CARROLL WILLIAM ERNEST, AND J L. KRIDER

Swine production. New York McGraw-Hill Book Company Inc., 1950. 498 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $6 00. 2760

Contents (abridged) Part I, Organization factor in the cost of production: Characteristics of swine and of their production. The enterprise and the farm. Part II, Establishing swine enterprise as factor in the cost of production: Number and kind of hogs affect cost of production. Breed and cost of production. Maintaining and improving the herd. Part III, Management factor in the cost of producing pork. The system of management may affect costs. Management factor in the number and quality of pigs weaned. Managing fattening pigs factor in the cost of production. Equipment factor in the cost of production. Part IV Feed as factor in the cost of production. The importance of feed in swine-production costs. Nutrient allowances for swine. Cereal grains as swine feeds. Milk, animal, and marine products. Protein and vitamin supplemental feeds of plant origin. Forage crops for swine. Formulation of rations for efficient production. Preparation of feeds and methods of feeding. Feeding the breeding herd. Marketing hogs factor in profits. Index.

Note: An agricultural college textbook in which the economics of hog raising on modern farms is treated from the practical farmer's standpoint. To reveal which are profitable practices the authors have

made extensive use of experimental data from the United States Department of Agriculture and from state agricultural experiment stations. Bibliographical citations appear at the ends of the chapters. In addition to its use as text, the book is potentially valuable to men in the business of growing swine or planning to engage in it.

CLAWSON, MARION
The western range livestock industry New York McGraw Hill Book Company, Inc., 1950 401 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) $5.50 2761

Contents: What is "range"? Range livestock in the nation. Divisions of the range region. Climate of the range region. Plant cover in relation to range livestock production. Other natural factors. General economic structure of the range region. Land ownership. Administration of federal range lands. Livestock numbers and production rates. Economic utilization of feed and forage. Range livestock fattening and marketing. General characteristics of ranches. Ranch organization and management principles. Cattle ranches. Sheep ranches. Ranch values and incomes. Grazing land values and grazing fees. Credit for the range livestock industry. Meat consumption. Geography of meat and animal prices. Income from sale of meat animals. Competition among meats. Wool. Factors affecting the supply of meat. Range livestock industry in the second World War. Conclusion and look ahead. Index.

Note: An authoritative survey, largely from the economic point of view, of the industry of raising beef cattle and other domestic animals on the open, unfenced grazing areas in the western portion of the United States of America. The area covered is mainly one in which the forage consists of native plants and which, because of low rainfall or rough topography, is not suitable for other forms of agriculture. The problems discussed relate to the best utilization of the available pasture so as to produce meat and wool in the most profitable ways, taking the long-range viewpoint. The 80 plus illustrations include both graphs on which much economic data are represented and photographs of scenes of the industry. The author is Director of the Bureau of Land Management of the Department of Interior of the United States Government.

DEVOE GEORGE PERCY AND J L. KRIDER
Raising swine. New York McGraw Hill Book Company Inc., 1952 447 p. illus. 24 cm. (McGraw Hill rural activities series, W A. Ross, consulting editor) $4.50 2762

Contents. Engaging in swine raising. Selecting and purchasing swine. Keeping and using records. Planning breeding program for swine. Feeding swine. Providing facilities for raising swine. Handling and caring for swine. Keeping swine healthy. Breeding and improving swine. Marketing swine. Preparing and processing pork for home use. Correlated list of visual aids. Index.

Note. Good practices in the raising of swine under conditions which prevail in the United States of America are described in simple language and in rather full detail in this book. The main emphasis is on the raising and marketing of meat animals, however, the raising of breeding stock is also discussed. The book is suitable for the guidance of young people who are interested in raising hogs as 4-H club enterprises and for practical farmers. It is fully illustrated.

ENSMINGER, M EUGENE
Animal science Danville, Ill. The Interstate, 1950 1059 p. illus. 23 cm. $6.00 2763

Contents (abridged) General sections: Some principles of genetics and animal breeding. Feeding livestock. Livestock barns, shelters, and equipment. Animal health, disease prevention, and parasite control. Marketing livestock. Meat and animal by-products. Beef cattle: Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual purpose cattle. Breeding beef cattle. Feeding beef cattle. Central marketing and packer slaughtering of cattle and calves. Sheep and goats: Distribution, adaptation, and the future of the sheep industry. Types and breeds of sheep. Systems of sheep production. Central marketing and packer slaughtering of sheep and lambs. Wool and mohair. Goats. Swine: History and development of the swine industry. Distribution, adaptation, and the future of the swine industry. Types and breeds of swine. Breeding swine. Feeding swine. Central marketing and packer slaughtering of hogs. Horses and mules: Distribution, adaptation, and the future of the horse and mule industry. Types and classes of light horses according to use. Types and classes of work horses and mules. Breeds of light horses. Breeds of draft horses. Determining the age and height of horses. Breeding horses. Appendix.

Note: A large volume covering all aspects of modern animal husbandry. It is arranged for use as a textbook by agricultural college students and by 4-H and FFA groups. It also is useful to farmers and ranchers as reference book. The author is Chairman of the Department and Division of Animal Husbandry at the State College of Washington.

ENSMINGER M EUGENE
Beef cattle husbandry Danville, Illinois The Interstate 1951 381 p. illus. 24 cm. (Animal agriculture series) $3.50. 2764

Contents: History and development of the beef cattle industry. Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual-purpose cattle. Establishing the herd, selecting and judging beef cattle. Systems of beef production. Breeding beef cattle. Feeding beef cattle. Beef cattle management. Buildings and equipment for beef cattle. Beef cattle health, disease prevention and parasite control. Central marketing and packer slaughtering of cattle and calves. Selecting, fitting and showing beef cattle. Appendix. Index.

Note: A practical text in which some attention is paid to history and economics but most of the space is devoted to describing good techniques. It is introductory to the field, but genetics and some other advanced topics not found in all introductory books are included. There are 144 figures.

ENSMINGER, M. EUGENE
Horse husbandry Danville, Illinois The Interstate, 1951 336 p. illus. 24 cm. $3.50. 2765

Contents: History and development of the horse and mule industry. Distribution, adaptation, and the future of the horse and mule industry. Types and classes of light horses according to use. Types and classes of work horses and mules. Breeds of light horses. Breeds of draft horses. Selecting and judging horses. Determining the age and height of horses. Unsoundnesses and stable vices. The horse in action. Breeding horses. Feeding horses. Buildings and equipment for horses and mules. Horse and mule health, disease prevention, and parasite control. Equitation. Appendix: Animal units. Weights and measures of common feeds. Gestation table. All-time top sales. United States and world records for thoroughbreds. The breed associations. Breed publications. State agricultural experiment stations. Index.

Note: In this work on the care and breeding of horses under current conditions in the United States of America the emphasis is on light horses, such as are used for racing, riding, hunting, etc. The book is addressed to beginners and nonspecialists, but it contains enough material to make it useful to those who are interested in horse raising from a practical standpoint. For each breed of horse described the author gives origin and native home, characteristics, adaptation and use, and present status. The 144 figures include many reproductions of photographs of horses and numerous line drawings of such operations as saddling and mounting.

ENSMINGER, M EUGENE
Sheep husbandry Danville, Ill. The Interstate, 1952 404 p. illus. 23 cm. (Animal agriculture series) $3.50. 2766

Contents (abridged) History and development of the sheep industry. Types and breeds of sheep. Establishing the flock. Systems of sheep production. Breeding sheep. Feeding sheep. Sheep management. Buildings and equipment for sheep. Sheep and goat health. Wool. Central marketing and packer slaughtering of sheep and lambs. Fitting and showing sheep. Goats. Selecting, fitting and showing sheep. Glossary of wool terms. Goats. Selecting, fitting and showing sheep. Appendix: Gestation table. All-time top sales. The breed associations. Breed publications. State agricultural experiment stations. Index.

Note. A practical book for use as text in high school and college introductory courses. It is comprehensive enough to be useful as source of information for farmers who are just entering the branch of animal husbandry or who want information about it so as to decide whether to enter. Management both under range conditions and on small farms is discussed. The book is very profusely illustrated, but no bibliography is included other than list of current periodicals.

ENSMINGER, M EUGENE
Swine husbandry Danville, Illinois The Interstate, 1952 378 p illus. 24 cm. (Animal agriculture series) $3.50. 2767

Contents: History and development of the swine industry. Distribution, adaptation and the future of the swine industry. Types and breeds of swine. Establishing the herd selecting and judging swine. Breeding swine. Feeding swine. Grains and other high energy feeds for swine. Protein and vitamin supplements for swine. Pastures for swine. Buildings and equipment for swine. Swine health, disease prevention and parasite control. Central marketing and packer slaughtering of hogs. Selecting, fitting and showing swine. Appendix: Animal units. Weights and measures of common feeds. Gestation table. All-time top sales. The breed associations. Breed publications. Swine publications. State agricultural experiment stations. Index.

Note: A well-organized, practical description of good techniques in swine production. The treatment is elementary enough for use in agricultural courses in high schools and colleges, yet sufficiently detailed for the guidance of farmers and swine raisers. The choice of feeds, methods of feeding, and disease prevention are discussed in considerable detail. One hundred fifty-six figures and more than 20 tables supplement the textual material.

GORMAN, JOHN ALEXANDER

The western horse its types and training. Danville, Illinois The Interstate, 1949 396 p. illus. 22 cm. $3.00 2768

Contents: Part I, Training: Training the colt. Training the young horse to work. Training the stock horse. "Bronc busting." Restraining devices. Training and gaiting the pleasure saddle horse. Trick training. Rodeos and western shows. Horse shows and recreation. Horse racing. Part II, Types of western horses: Light breeds of horses. Types of western stock horses. Reserved horses. Wild horses. Draft horses and mules. Part III, Shipping and marketing horses: Reducing losses in shipping. Marketing horses. Index. Breed associations.

Note: "Western" in the title of this book refers of course to the western part of the United States of America, a region in which all types of horses are raised, most of them under range conditions, and in which most of the "cow ponies" are produced. The book is about evenly divided between the discussions of training methods and the descriptions of types of horses. The style is simple. The book is useful as a general source of information on how western horses are bred and trained. The author is a member of the faculty of the University of Wyoming.

MAYNARD LEONARD AMBY

Animal nutrition. Third edition. New York McGraw Hill Book Company, Inc. 1951 474 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink consulting editor) $7.00 2769

Contents: Part 1, General bases of nutrition. The expanding field of nutrition. The animal body and its food. Some physiochemical bases of life processes. Part 2 The nutrients and their metabolism. The carbohydrates and their metabolism. The lipids and their metabolism. The proteins and their metabolism. The inorganic elements and their metabolism. The vitamins. Part 3 The measurement of body needs and food values. Feeding experiments. The determination of digestibility. Nutritional balances. Feeding standards. Part 4, Nutritive requirements for body processes and productive functions. The fasting catabolism. Maintenance. Growth. Reproduction. Lactation. Work production. List of visual aids. Name index. Subject index.

Note: (1414) This college textbook discusses the principles of nutrition underlying the successful feeding of farm animals. It also teaches how new facts of nutrition are being learned experimentally and how they find application in practice. The third edition has been thoroughly revised to cover advances in the field since the second edition was published in 1947. The principal changes reflect advances in knowledge of amino acids, vitamins, and micro-mineral elements, in addition to which the pages dealing with the biochemistry of nutrition have been expanded to cover more specific present-day understanding of how nutrients function. The selected bibliographical references have also again been brought up to date.

PERRY ENOS J editor

The artificial insemination of farm animals. Second revised edition. New Brunswick, N J Rutgers University Press, 1952 341 p. illus. 23 cm. $5.00 2770

Contents: Historical, by E. J. Perry. Advantages and limitations, by E. J. Perry. The organs of reproduction, by J. Edwards. The role of hormones in reproduction, by R. P. Reece. General information, by E. J. Perry. Factors influencing the quality and quantity of semen, by E. J. Perry. Cattle, by E. J. Perry. Sheep and goats, by C. E. Terrill. Horses and jackstock, by V. Berliner. Birds, by F. P. Jeffrey. Swine, by E. J. Perry. Dogs, by E. P. Leonard. We must breed better livestock, by J. W. Bartlett. Systems of breeding, by J. W. Bartlett. Selection of sires, by J. W. Bartlett. Artificial breeding organizations, by E. J. Perry. The shipping of semen, by E. J. Perry. Diseases in relation to artificial insemination, by J. A. Henderson. Feeding and management of sires, by J. W. Bartlett. Index.

Note: (1440*) The second revised edition of this standard work on the artificial insemination of farm animals has been brought up to date in all its parts and contains an added chapter on the artificial insemination of dogs. Covering both principles and procedures of the method, the publication is a complete exposition of the subject and may be equally well used as a textbook in agricultural colleges and as a manual of practice for those concerned with artificial insemination programs.

RICE, VICTOR ARTHUR, AND FREDERICK NEWCOMB ANDREWS

Breeding and improvement of farm animals. With chapter on Selection in meat animals by Everett James Warwick. Fourth edition. New York McGraw Hill Book Company Inc., 1951 787 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8.00. 2771

Contents: Section I, Animals and man up to the present. Animal breeding—present and past. Early man and animal domestication. Animal origins and progression. Section II, Mechanisms of reproduction: The male's part in reproduction. The female's part in reproduction. Reproductive efficiency. Lowered fertility and sterility. Pregnancy and parturition. Mammary development and the initiation of lactation. Artificial insemination. Section III, Mechanisms of heredity: History and problems of genetics. The principles of heredity. The principles of variation. Sex determination. Section IV The art of breeding. Systems of breeding—unrelated animals. Systems of breeding—related animals. General considerations in selection. Selection in dairy cattle. Selection in meat animals. Selection in horses. Retrospect and prospect. Appendix. Livestock record associations. Name index. Subject index.

Note: (4974a) A standard textbook for agricultural college courses. Each section has been brought up to date with added data to cover new developments and added material in the bibliographies and illustrations. Among the advances covered are the broadened recognition of the fundamental aspects of animal agriculture and shifting emphases among the various classes of livestock; further developments in the hormonal regulation of sex manifestations and the widespread adoption of artificial insemination and continuing delineation and refinement of the basic laws of inheritance and their application to livestock improvement.

SAUNDERSON, MONT HARRIS

Western stock ranching Minneapolis The University of Minnesota Press, 1950 247 p. illus. 24 cm. $5 00 2772

Contents: Resources and ranches. Livestock management economics. Grazing land use. Choice of feed crops for ranch use. Markets, prices, and incomes. Business management. Planning the management program of the ranch. The use of federal public lands. Common and botanical names of range plants. Bibliography. Index.

Note: The author of this book is a Range Economist associated with the United States Forest Service, and he has covered the subject of stock raising in western United States of America from the economic and management standpoint. Land, use, feed, labor, market prices, and management of grazing areas (both private and public) are among the important aspects discussed in some detail. Areas of the United States of America which are suited to ranching and the chief types of stock ranches are described in the first chapter

SMITH, WILLIAM WESLEY

Pork production. With a chapter on *Sanitation and disease control* by L. M. Hutchings. Third edition. New York The Macmillan Company 1952 616 p. illus. 22 cm. $5.50. 2773

Contents: General view Feeding and handling the herd in the breeding season. Feeding pregnant sows and gilts. Care and feeding of the sow and litter Size of litters—birth weight of pigs—milk flow of sows. Housing and general management of the breeding herd. Food demands of the growing and fattening pig. Food deficiencies of the cereal grains. Forage crops. Methods of feeding on forage. Hogging-off corn and other crops. Protein supplements—dairy by-products—packing house and similar products. Protein supplements of plant origin. The cereal grains and other carbonaceous feeds. The cost of producing pork. Marketing. Factors affecting the price of hogs. Judging. Breeds of hogs. Breeding. Sanitation and disease control. Index.

Note: (3019) A standard book on the subject used both as text in agricultural college courses and as reference book. All aspects of the subject which are of interest to the practical hog raiser are covered in considerable detail. References to the literature are included. The previous edition appeared in 1937 In the third edition there has been extensive revision in order to describe new management practices and to include research information published in the recent literature. Economic data have also been revised. The number of figures has been increased to 112.

SNAPP, ROSCOE R.

Beef cattle. With a chapter on sterility by Harry Hardenbrook, jr Fourth edition. New York John Wiley & Sons, Inc., 1952 641 p. illus. 23 cm. $6 50 2774

Contents: Part 1, General aspects of the beef-cattle industry: Phases and areas of beef production. The relation of beef cattle to general farming. The relation of beef cattle to soil fertility Part 2, The breeding herd. Advantages and disadvantages. When to start. Selection. Reproduction and mating. Pregnancy Parturition. Summer management. Winter management. Weaning, dehorning, castration, and marking of calves. Feeding and care of young cattle. Part 3 Fattening cattle for market: Fattening cattle. The importance of age in growth and fattening. The importance of grade and sex in feeder cattle. The use of grain in fattening cattle. Carbonaceous concentrates and their use. Protein requirements. The principal nitrogenous concentrates. Roughage and its use. Corn silage as feed for fattening cattle A comparison of various silages. Grass as feed for fattening cattle. Miscellaneous feeding stuffs. The preparation of feeds for beef cattle. Methods of feeding. Part 4, General problems in beef production Baby-beef production. The marketing of cattle. The financial aspect of beef production. Fitting cattle for show and sale. Buildings and equipment for beef cattle. Diseases and parasites affecting beef cattle. Sterility Index.

Note. (4077) After 13 years this comprehensive textbook and manual has again been revised and brought up to date. Included in the fourth edition are reports on new breeding and feeding techniques introduced since the previous edition, new methods of calculating rations and estimating the feed required to winter or fatten beef cattle of different ages and weights, new data on grass silage, new material on artificial insemination, and special chapter on sterility in beef cattle. Additions have also been made to the chapters on fitting cattle for show and sale, on buildings and equipment, and on diseases, parasites, and poisonous plants. Four chapters of introductory and background materials and the lists of references at the ends of the chapters which appeared in the previous edition have been omitted. The new edition contains 110 illustrations and 263 tables.

WILLIAMS DAVID WILLARD

Beef cattle production in the South. Second edition. Danville, Ill. The Interstate, 1950 450 p. illus. 21 cm. $3.00 2775

Contents (abridged) Historical development and distribution. Judging beef cattle. Breeds of beef cattle. Breeding beef cattle. Feeds and feeding. Marketing beef cattle Handling and management practices. Showing beef cattle Pastures Sanitation—parasites—diseases. Equipment for beef production. Appendix. Glossary of terms. Selected references. Index

Note: An introductory text written at the level of first courses in high schools and agricultural colleges. It is limited largely to practical aspects, but some elementary historical information is included. The 233 figures include pictures of beef breeds, ranch equipment, and management practices. The author is Vice-Chancellor for Agriculture in the Texas A. & M. College System.

DAIRYING AND DAIRY PRODUCTS

ECKLES CLARENCE HENRY

Dairy cattle and milk production. Fourth edition. Revised by Ernest L. Anthony New York The Macmillan Company, 1950. 560 p. illus. 22 cm. $5.25 2776

Contents (abridged) Origin and classification of domesticated cattle. The dairy type. Holstein-Friesians. Jerseys. Guernseys. Ayrshires. Brown Swiss. Minor breeds. Dual purpose cattle. General considerations in selecting breed. Selection of the individual cow. Selection, care, and management of the sire. Cattle breeding. Calf feeding and raising. Calf raising and calfhood diseases. Factors influencing growth and development of dairy heifers. Registered herds—the business side of the pure-bred business. Care and management. Milking factors influencing the quantity and quality of milk. Common ailments of cattle. Feeding for milk production. Characteristics of common feeds. The silo and silage. Barns for cows. Appendix. Index.

Note: (4981b) A long-established agricultural college textbook. In it full descriptions of dairy breeds raised in the United States of America are combined with discussions of the management of dairy cattle. In this edition evidence of revision and amplification is to be found throughout the book. However in most instances the changes are limited to the rewording of sentences and the insertion of new sentences or new paragraphs. Professor Anthony who is responsible for the fourth edition, is Dean of Agriculture in Michigan State College.

ECKLES CLARENCE HENRY, AND OTHERS

Milk and milk products prepared for the use of agriculture college students. By Clarence Henry Eckles Willes Barnes Combs, and Harold Macy Fourth edition. New York McGraw Hill Book Company Inc., 1951 454 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $5 75 2777

Contents (abridged) The constituents of milk. Factors influencing the composition of milk. Milk and dairy products as food. Microorganisms. The Babcock method for determining fat in milk and cream. Common dairy processes. Market milk. The manufacture of dairy products—butter—cheese—ice cream—condensed milk, dry milk, milk by-products. Dairy arithmetic. Appendix. Methods for bacteriological analysis of milk. Roese-Gottlieb method for fat determination (official A.O.A.C.) Babcock method for fat determination (official A.O.A.C.) Table for calculating total solids in milk from specific gravity and fat percentage. Table for determining the total solids of sweet and sour cream buttermilk from the lactometer reading. Market grades of creamery butter. Tentative U.S. standards for grades of American Cheddar cheese. Specific grading requirements for non-fat milk solids. Index.

Note: (5051a) A standard work used both as an introductory text and as practical guide for dairy plant personnel. The arrangement and scope are the same as in the preceding edition published in 1943 and much of the text has not been altered. However, useful revisions have been made, particularly in the statistical material and in the tests described in the chapters on the Babcock method, miscellaneous tests, and in the appendix.

ELLIKER PAUL REUBEN

Practical dairy bacteriology New York McGraw Hill Book Company Inc., 1949 391 p illus. 23 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $5.50 2778

Contents: Structure and distribution of microorganisms. Nutrition and growth of microorganisms. Inhibition and destruction of microorganisms. Methods of cultivating and studying microorganisms. Milk as habitat for microorganisms. Methods used to determine sanitary quality of milk and milk products. Microbiology of market milk and cream Butter and cheese starter cultures. Microbiology of butter. Cheese. Fermented milks. Condensed- and dry-milk products. Ice cream. Cleaning dairy equipment. Index.

Note This book is both text for college courses and handbook for dairy farmers, inspectors, and dairy-plant workers. Proceeding from the general to the specific the presentation begins with four introductory chapters on microorganisms, then covers all phases of bacteriology as it applies to the dairy industry Detail on manufacturing methods is included so that the student or reader may gain more complete knowledge of the nature of the processes affecting numbers and types of microorganisms in dairy products. The chapter on methods used to determine sanitary quality of milk and milk products presents number of common procedures, such as standard plate count, microscopic count, and dye-reduction tests. These are presented to indicate briefly the nature of the methods, interpretation

of results, and the materials and equipment necessary to perform them. The author is Professor of Dairy Bacteriology at Oregon State College. Bibliographical references appear at the ends of the chapters.

ESPE, DWIGHT, AND VEARL R. SMITH

Secretion of milk. Fourth edition. Ames, Iowa Iowa State College Press, 1952 291 p. illus. 23 cm. $3 95 2779

Contents: Evolution of the mammary gland. Anatomy of the udder. Hormonal interrelations in mammary gland development. Hormonal interrelations in lactation. Physiological and biochemical aspects of lactation. Physiology of milking. Mechanics of milking. Physiological factors affecting the quantity and quality of milk. Effect of feed on the amount and composition of milk. Environmental factors affecting lactation. Index.

Note: (3444*) This book is standard critical review and digest of the literature pertaining to milk production in dairy cows. Each of the chapters consists of concise text key-numbered to an extensive list of literature references. Many points are made that are of value to the practical farmer, but the chief uses of the book are as supplementary text in agricultural college courses and reference handbook in research. In the present edition the chapter arrangement has been somewhat reorganized, and literature published as late as 1950 has been covered.

GILMORE, LESTER ODELL

Dairy cattle breeding. Edited by R. W Gregory Philadelphia J B Lippincott Company 1952 604 p. illus. 23 cm. $6.00 2780

Contents: Domestication. Inheritance and environment. Basic considerations in breeding. Gene frequency analysis. Sex. Reproductive efficiency. Multiple births. Lethals. Nonlethal physical characters. Color and color patterns. Blood typing. Disease resistance. Growth and development. Milk secretion. Efficiency of feed utilization. Longevity and miscellaneous physiological characteristics. The selective process. How production is recorded. Type and production. Evaluating bulls. Evaluating dams and cow families. Pedigrees. Herd analysis. Inbreeding. Outbreeding. Extending the use of well-bred bulls and cows. Artificial breeding. Collecting and processing semen. Purebred cattle. Index.

Note: This publication is an inclusive textbook for agricultural college students and teachers which can also be of use to dairy cattle breeders, to officials of breed registry and artificial breeding organizations, and to vocational agriculture students and teachers. The author concentrates on the breeding of dairy livestock, except in certain chapters wherein records relating to all cattle are presented, such broader knowledge being considered helpful to the student for an understanding of the breeding of dairy livestock; these chapters are those dealing with domestication, environmental variations, reproduction, inherited characters, and systems of breeding. Illustrations number 173 aside from 116 tables. Bibliographical references are given in footnotes, and study questions are given at the ends of the chapters.

LASCELLES H. R.

Western dairying. Danville, Illinois The Interstate, 1951 280 p illus. 21 cm. $3 00. 2781

Contents: Factors that influence milk production in the West. Rentals, partnerships and leases. Grass. The cow. The bull. Production testing and record keeping. The shelter Feeding under western conditions Disease control. Pricing milk. The show ring. Sources of material. Index.

Note: A practical introductory text on the breeding and management of dairy cattle under the economic and agricultural conditions prevailing in the western states of the United States of America. It is addressed primarily to young people, especially students in high schools and members of 4-H clubs. However, the subject is covered explicitly and thoroughly enough to make the book useful to anyone in need of an introductory view of this branch of western agriculture. Selected literature references are included.

NEVENS, WILLIAM BARBOUR

Principles of milk production. New York McGraw Hill Book Company Inc. 1951 443 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $5.50 2782

Contents (abridged) Part I, Dairy farming affords many incentives: Production of milk an important phase of agriculture. Part II, Feeding, breeding, and managing dairy cattle: Feeding dairy cattle; feeding cows during the barn-feeding season—the composition and nutritive value of feeds—mineral and vitamin needs—feeding dairy cattle during the pasture season. Breeding dairy cattle Selection—systems of breeding—artificial insemination. Raising the dairy calf. Part III, Dairy-cattle breeds and selection of individual animals. Part IV Milk secretion, production of high-quality milk, and marketing milk. Part , The business aspects of dairy farming. Part VI, Growing and preparing feeds for milk production Good soil management essential to successful feed-crop production. Pastures on most farms may be improved. Making high-quality hay Silage has an important place in milk production. Part VII, Better buildings for milk production. Index.

Note: Presenting both important principles and modern methods of milk production, this book is suitable for use as textbook in agricultural colleges and as practical guide for persons actively engaged in dairy farming. Appropriate illustrations are part of the text, while lists for supplementary reading and review questions are given at the ends of the chapters. The author is member of the faculty of the University of Illinois.

OLSON THOMAS MANDANEOUS

Elements of dairying. Revised edition. New York The Macmillan Company 1950. 708 p illus. 22 cm $5.50. 2783

Contents (abridged) Part I, Dairy cattle: Factors influencing the development of the dairy industry Dairy cattle breeding. *Holstein-Friesians. Jerseys. Guernseys. Ayrshires. Brown Swiss.* Minor dairy breeds. Dual purpose breeds. Developing dairy herd. Selecting individual animals and maintaining profitable herd. The dairy sire. The dairy calf. Milk secretion. *Factors* affecting the quantity composition, and quality of milk. Composition, digestion, and metabolism of feeds. *Factors* affecting the composition and nutritive value of feeds. Feeding standards and feeding practices. Crops to grow for dairy cattle and characteristics of common feeds. Maintaining healthy herd. Part II, Dairy products: Milk. Microorganisms of milk and production of quality milk. Testing milk products. Butter. Ice cream. Cheese. Part III, Dairy farming: The business side of dairy farming. Essential buildings and equipment for dairy farming. Milk houses. Silos. Milking machines. Judging and fitting dairy animals. Appendices. National dairy organizations. Score cards for dairy products. Score cards for dairy animals. Tables. Index.

Note (4995) A college textbook which provides an introductory but inclusive treatment. The descriptions of individual breeds are relatively brief; but the practical aspects of developing dairy herd, managing it, and marketing its products are discussed at considerable length. The discussions of such milk products as ice cream are not full enough to serve as guides to manufacturers but they contain enough information to enable farmers in many cases to decide whether or not the product under discussion is possible activity for the particular farm enterprise. In this edition the book has been considerably revised and expanded by approximately 130 pages. There are 130 figures but few literature references.

PETERSEN, W E.

Dairy science, its principles and practice. Second edition. Edited by R. W Gregory Philadelphia J B Lippincott Company 1950 695 p. illus. 24 cm. $6 00 2784

Contents (abridged) The history of dairying. The economics of milk production. Milk consumption. Economics of market milk—The butter industry—The cheese industry—Concentrated milk products—Ice cream industry—Milk by-products. Origin, development, and classification of dairy cattle. The Holstein-Friesian. The Jersey The Guernsey The Ayrshire. The Brown Swiss. The milking Shorthorn. The Red Polled. The lesser breeds. Types of dairy farming and breed selection Selecting the individual cow Fundamental considerations of heredity Known inherited characteristics in dairy cattle. Systems of breeding. Selection and care of the herd sire. Artificial insemination. The purebred business Calf raising. The physiology of milk secretion. Factors influencing the quantity and quality of milk. The milking machine and milking. Efficiency and cost of milk production. Common diseases of dairy cows. Dairy barns. Barnyard manure. Common feeds—characteristics and treatment. Feeding dairy cows in the barn. Feeding cows on pasture. Chemical constituents of milk. Physical and chemical properties of milk. Dairy microbiology: bacteria, yeasts, and molds. Common tests of milk and cream. The more common dairy processes. Market milk. Butter. Cheese. Condensed and dried milk. Ice cream and other dairy products. Appendix. Reference readings. Index.

Note. (4996) A comprehensive volume designed primarily for use as text for college students of dairy production. It is of value also

in vocational education and as reference book. Problems pertaining to milk production are given especial emphasis. Lists of questions and selected bibliographies arranged by chapters are printed separately at the conclusion of the book. The new edition has been completely revised and reset from the original (1939) edition. All charts and graphs have been brought up to date. New procedures and methods are presented, including an added chapter on artificial insemination, and references are given to recent journal articles and other new publications of importance.

ROADHOUSE, CHESTER LINWOOD, AND JAMES LLOYD HENDERSON

The market milk industry Second edition New York McGraw Hill Book Company, Inc. 1950 716 p. illus 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $7 50 2785

Contents: History and development of the market-milk industry The composition of milk and its physical and chemical properties. Bacteriology in relation to market milk. Milk and the public health. Safeguarding the milk supply Sanitary production of market milk. Construction and arrangement of sanitary dairy-farm buildings. Country milk-receiving stations. The transportation of milk. Flavors of milk. Construction and arrangement of city milk plant. Milk-plant operation. Washing and sterilizing dairy equipment. Pasteurization of milk. Mechanical refrigeration. The cooling of milk. The creaming of milk. Table cream and pastry cream. Special milk products. The distribution of milk. The cost of milk production. The price of milk and price plans. Dairy inspection and market-milk control. Milk and nutrition. The milk-plant laboratory and its operation. Appendix. Index.

Note: (5009) A college textbook which conveys view of the market-milk industry as whole and also provides specific information on milk-plant operation. It is useful both in classroom instruction and in self-instruction by men already employed in the industry The second edition has been completely revised and somewhat expanded from the first edition of 1941 Specific changes in the industry which are covered in the second edition include improvements in the pasteurization of milk by the high-temperature short-time method, the general adoption of homogenized milk, the official checking of the holding time of high-temperature pasteurizers, improved procedures for preparing cultured buttermilk, and the further use of fiber containers in milk distribution. The processing of several new products is also described, among them being frozen milk, frozen cream, plastic cream, hydrated milk, recombined milk, and yoghurt. The bibliographical references have been brought up to date.

SPEARING JACK

Fitting and showing dairy cattle. Ames Iowa The Iowa State College Press 1952 97 p illus. 20 cm. $2 00 2786

Contents: Selection of the show herd. Steps in fitting. Feeding. Foot trimming Clipping. Horn training and polishing. Going to the fair. The day before the show Showing in the ring. Care of cow and calf.

Note: Techniques of preparing dairy cattle for display and judging at cattle sales and cattle shows and of handling them in the show ring are described in this short but useful book. The language of the book is simple and explicit, and it is intended primarily for young people and other beginners. The illustrations include number of photographs of prize-winning cattle.

THOMAS ROY HILMAN AND OTHERS

Dairy farming in the South. By Roy H. Thomas Paul M Reaves and C. W Pegram. Revised edition. Danville Illinois The Interstate, 1949 431 p. illus. 21 cm. $2 50 2787

Contents: The importance of dairying in the South. Producing milk and dairy products for home use. Composition testing and value of milk. Value of milk in the diet. General breeding problems and practices. The herd sire Caring for cow and calf. Judging dairy cows. Selecting the dairy breed. General problems in dairy feeding. Feeding practices. Pastures for dairy cattle. Silage for dairy cattle. Dairy buildings and equipment. Producing quality dairy products. Marketing dairy products. Common diseases and parasites of dairy cattle. Fitting and showing dairy cattle. Artificial insemination of dairy cattle. Production testing of dairy cattle. New methods and equipment are making dairying easier. The man and the cow in the production of milk. Index.

Note: (4998) A practical textbook designed for use in agricultural courses in high schools and colleges. It is devoted to the specific problems and practices of dairy farming in the southern United States where the warmer climate and the longer growing season require somewhat different techniques than those which are standard in the northern United States. The discussions are phrased in simple language and they are limited mainly to matters that are of direct concern to small farmers. In this edition the last four chapters have been added. There are 174 figures, but no bibliography

TROUT, GEORGE MALCOLM

Homogenized milk a review and guide. East Lansing, Mich. Michigan State College Press, 1950 233 p. illus. 23 cm. (Michigan Agricultural Experiment Station. Bulletin. Memoir series. No 9) $3 75 2788

Contents: An introduction to homogenized milk. Effect of homogenization on the physical and chemical properties of milk. Effect of homogenization on the fat and proteins of milk. Processing homogenized milk. Problems associated with homogenized milk and their control. Laboratory control. Qualities of homogenized milk with which the consumer may be concerned. Literature cited. Author index. General index.

Note: The Michigan Agricultural Experiment Station began in 1930 series of studies of milk homogenization. This volume brings together the results of these studies, presenting them against background of pertinent historical information, other scientific studies, and recent commercial applications and usages. It is complete guide to the subject, with bibliography of 451 citations.

WHITTIER, EARLE OVANDO, AND BYRON H. WEBB

Byproducts from milk. New York Reinhold Publishing Corporation 1950. 317 p. illus. 24 cm. $6 00 2789

Contents: The byproducts of milk. Beverages from byproducts. Fermentation products from whey Condensed products. Dried products. Cheese and cheese products. Bakery products. Canned products. Miscellaneous feed products. Casein and whey proteins. Lactose. Index.

Note. A comprehensive presentation of the technology of manufacturing food and non-food products from milk. It is based on review of the literature, including patents and government publications; statements in the text are keyed to the reference lists. Certain products such as butter and cheese which are fully covered in other books are either omitted or discussed only in selected aspects. For example, cheddar cheese is not included, but there is considerable discussion of cheese spreads. The book is especially useful for the information that it provides on host of minor products such as acidophilus milk, chocolate-flavored milk, lactic acid, whey concentrates, cottage cheese, canned cream, salad dressings, and casein. Flow sheets are included for the manufacture of calcium lactate, casein, and lactose. The authors hold positions with the Bureau of Dairy Industry in the United States Department of Agriculture.

POULTRY

BARGER, EDGAR HUGH, AND LESLIE ELLSWORTH CARD

Diseases and parasites of poultry Fourth edition thoroughly revised, with 77 illustrations Philadelphia Lea & Febiger 1950. 400 p. illus. 21 cm. $4.00. 2790

Contents: The mortality problem. The nature of disease. The anatomy of the fowl. Poultry surgery Diagnostic methods. Bacterial diseases. Virus diseases. Protozoan diseases. Nutritional diseases. Miscellaneous conditions. Poisons. Internal parasites. External parasites. Controlling flock mortality Appendix. Index.

Note. (5029) A standard, compact handbook designed for agricultural extension workers, veterinarians, and commercial poultrymen. The various aspects of the subject named in the chapter titles are outlined with enough information given on diseases and control measures for average men. However each chapter is supplemented by long list of well-selected references in which fuller discussions of specific sub-topics can be found. The present edition has the same chapter titles and approximately the same number of pages as the preceding one, and there has been no change in scope or plan of

organization. However, revised and later information has been inserted in many parts of the book and publications since 1943 have been added to the list of references.

Biester, Harry Edward, and L. H. Schwarte, editors

Diseases of poultry Third edition. Ames, Iowa The Iowa State College Press 1952 1245 p. illus. 26 cm. $11.50 2791

Contents: Anatomy by H. L. Foust. Digestion, by E. A. Hewitt. Poultry genetics as related to pathology by N. F. Waters and J. H. Bywaters. Avian hematology by C. Olson, Jr. Principles of disease prevention, by W. R. Hinshaw. Proteins, carbohydrates, fats, fiber, minerals, and water in poultry feeding, by L. C. Norris and M. L. Scott. Vitamins and vitamin deficiencies, by R. M. Sherwood and J. R. Couch. Pullorum disease, by H. Van Roekel. Paratyphoid infections, by K. Fenstermacher. Fowl typhoid, by W. J. Hall. Fowl cholera, by C. Murray. Tuberculosis, by W. H. Feldman. Infectious coryza, "chronic respiratory disease," and coccobacilliform coryza, by M. S. Hofstad. Brucellosis, anthrax, pseudotuberculosis, tetanus, and vibrio infection, by H. J. Stafseth. Listerellosis, botulism, erysipelas, and goose influenza, by N. D. Levine. Streptococcus, staphylococcosis, arthritis, colibacillosis, and coligranuloma (Hjärre's disease) by M. S. Hofstad. Diseases caused by fungi, by K. L. Bullis. The avian leukosis complex, by E. Jungherr. Infectious bronchitis, by M. S. Hofstad. Infectious laryngotracheitis, by M. S. Hofstad. Newcastle disease, by C. A. Brandly. Ornithosis and psittacosis, by K. F. Meyer. Avian encephalomyelitis (epidemic tremor) by P. K. Olitsky and H. Van Roekel. Equine encephalomyelitis virus in birds, by L. T. Giltner. Fowl pox, by C. H. Cunningham. Fowl plague, by E. L. Stubbs. Foot-and-mouth disease in fowl, by P. K. Olitsky and H. W. Schoening. Rabies and infectious equine anemia, by L. H. Schwarte. Duck virus hepatitis, by P. P. Levine. Avian monocytosis, by E. Jungherr. Neoplastic diseases of the chicken, by W. H. Feldman and C. Olson, Jr. External parasites of poultry by E. A. Benbrook. Nematodes and acanthocephalids of poultry by E. E. Wehr. Cestodes of poultry by E. E. Wehr. Trematodes of poultry, by E. W. Price. Protozoa, by E. R. Becker. Diseases of the digestive system, by A. J. Durant and H. C. McDougle. Poultry surgery by L. H. Schwarte. Vicious habits and miscellaneous conditions, by L. H. Schwarte. Poisons and toxins, by L. H. Schwarte. Diseases of the turkey by W. R. Hinshaw. Index.

Note: (2482*) An established encyclopedic reference book for research workers, veterinarians, and large-scale poultry farmers. The current knowledge of each topic named in the chapter titles is summarized and extensive bibliographies are given at the ends of most chapters. Although the greater part of the text is identical with that of the second edition, the revision has been thorough. References to new advances and to literature published since the date of the second edition appear throughout the book. Several of the chapters are signed with the names of new contributors. The chapter on ornithosis and psittacosis—one of those very extensively revised—now includes a bibliography of approximately 200 references, of which 58 were published since 1947. Incidentally this chapter has public health as well as veterinarian interest.

Card Leslie Ellsworth

Poultry production. Formerly by Lippincott and Card. Eighth edition thoroughly revised, with 216 illustrations and 4 plates 2 in color Philadelphia Lea & Febiger 1952 416 p. illus. 24 cm. $5.00 2792

Contents: The poultry industry. The structure of the chicken and the formation of the egg. Principles of poultry breeding. Selection and improvement. Incubation. Brooding and rearing. Houses and equipment. The principles of poultry nutrition. The feeds. The nutrient requirements of poultry. Management practices. Controlling diseases and parasites. Marketing poultry products. The business of poultry keeping. Index.

Note: (2491*) A long-established text widely used in agricultural college courses and to a lesser extent by practical farmers. The presentation is more advanced and there is more emphasis on basic matters, such as the biology of ovulation, than would be appropriate in a book for beginners studying the subject without the aid of an instructor. Nevertheless, the main emphasis is on the application of scientific findings to practical poultry farming. In this revision the chapter on breeds and the extensive literature citations which were features of earlier editions have been dropped. On the other hand, valuable material has been added on poultry breeding and improvement, poultry houses, and recent developments in nutrition.

Charles, Thomas Burr, and Homer O Stuart

Commercial poultry farming. Eighth edition. Danville Ill. The Interstate 1950. 540 p. illus. 24 cm. $4.00. 2793

Contents: Incubation. Hatchery practices. Brooding practices. Battery brooding and laying cages. Broiler production. Capons and caponizing. Principles of feeding. Feeding chickens. Feeding adult birds. Rearing and range management. Selection. Breeding and sex distinction. Trapnesting and pedigreeing. Improvement programs. Marketing. Fattening. Housing and appliances. Management factors. Poultry diseases. Egg formation. Classes, breeds, varieties, strains. Turkey production. Index.

Note: This work in its various editions has been used as an agricultural school textbook for many years. It provides an introductory but substantial survey of practical knowledge, together with relatively full discussions of improvement programs. All major phases of the subject are discussed from the selection of eggs for incubation to the packing and marketing of the eggs and dressed birds. It is not now up to date on such matters as the use of hormones in caponizing or the effects of antibiotics in promoting growth. There are scattered references to government publications, but both the bibliography and the index are inadequate.

Heuser Gustave Frederick and others

Poultry management, by G. F Heuser, G O Hall, and J H. Bruckner Philadelphia J B Lippincott Company 1952 565 p. illus. 22 cm. (Agricultural management series, prepared under the general supervision of R. W Gregory) $4.00 2794

Contents: The poultry industry. Breeds of poultry—their nature, characteristics, and uses. Principles and practices of poultry breeding. Culling the farm flock. Housing the flock. Feed nutrients and poultry feeds. Hatching the chicks. Brooding and rearing. Growing young stock. Feeding hens for production. Producing market poultry. Marketing poultry products. Poultry and egg shows. Diseases and parasites of poultry. Growing turkeys. Index.

Note. A practical, comprehensive text. It is written in simple language and is addressed to such readers as students taking their first formal course in the subject, and to farmers now engaged in poultry farming or thinking of engaging in it. Economic aspects such as the relations between the number of laying hens per man working on the farm and labor income from the enterprise are adequately discussed. However, most of the space is devoted to descriptions of good practices. There are 87 tables of data on various aspects such as optimum levels of humidity in incubators and composition of mixed feeds. There are numerous illustrations and adequate bibliographies.

Hoffmann Edmund, and James M. Gwin

Successful broiler growing. Second edition. Mount Morris, Illinois Watt Publishing Company 1951 256 p. illus. 22 cm. $3 50. 2795

Contents: Introduction. Producing and consuming areas. Outlook for poultry meat production. Breeds and strains. Housing. Feeding principles and practice. Brooding and management. Disease prevention and control. Marketing. Home killing and dressing broilers. Investment, financing, expenses, and returns. Broiler production in batteries. Breeding for meat production. Producing eggs for hatching broiler chicks. Appendix. Index.

Note: (2486*) A practical work intended for use as a text in agricultural courses in high schools and colleges, and as a first instruction manual for practical poultrymen. It is written clearly and simply. In this edition the length has been increased by 70 pages. Many parts have been revised and the economic information has been brought down to about the end of the year 1949. Changes have been made in the bibliography

Hutt Frederick Bruce

Genetics of the fowl. New York McGraw-Hill Book Company, Inc., 1949 590 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $7.00. 2796

Contents. Domestic birds. Cytology Variations in the skeleton. Structural variations in the skin. Variations in the plumage. Variations in the color of the skin. Variations in the color of the plumage. Lethal genes and miscellaneous characters. Variations in body size. Egg production. Variations in eggs. Genetic resistance to disease. Genetic aspects of reproduction. Linkage. Genetics in practice. Appendix: Symbols for the genes of the fowl. Glossary Author index. Subject index.

Note. Intended for use as text and reference book for agricultural college students, this work surveys present knowledge of heredity and variation in the domestic fowl (chicken) The student is assumed to have had an introductory course in genetics, but the poultryman he has not had such course should not have difficulty in understanding the book. Much of the text consists of digest of the literature of the subject. The final chapter tells how present knowledge may contribute to the breeding of better fowls.

JULL MORLEY ALLAN

Poultry breeding. Third edition. New York John Wiley & Sons Inc., 1952 398 p illus. 24 cm. $6.00 2797

Contents: Breeds and varieties of chickens. Physiology of reproduction. Mechanism of inheritance. Color characters. Morphological characters. Gene linkage and blood group antigens. Fertility and hatchability Viability Meat production. Egg production. Egg characters. Selection methods. Index.

Note: (3039) A standard treatise in which accounts of genetic mechanisms and discussions of commercially desirable characteristics in poultry that are basic to breeding are given most of the space. However, these topics are covered from the viewpoint of practical breeders. Also in this edition, the final chapter outlines practical methods for the selection of breeding stock. Each of the chapters is supplemented by substantial list of literature references. The work was extensively rewritten for this edition. Text, illustrations, and bibliographies have all been revised.

JULL MORLEY ALLAN

Poultry husbandry Third edition. New York McGraw Hill Book Company Inc., 1951 526 p illus. (part col d) 24 cm. (Mc Graw Hill publications in the agricultural sci ences R. A. Brink, consulting editor) $6 50 2798

Contents: The poultry industry The breeds of chickens. The biology of the chicken. Breeding principles. Breeding practice. Incubation principles and practice. Rearing principles and practice. Housing and yarding principles and practice. Feeding principles. Feeding practice. Disease prevention and control. Marketing eggs. Marketing poultry Economics of production. Index.

Note: A standard textbook for agricultural college courses. Essentially it is complete guide to the principles and methods of modern poultry husbandry In this edition it has been revised to bring it thoroughly up to date in all its parts, including text, illustrations, tables, and selected lists of references.

MARSDEN STANLEY J AND JOSEPH HOLMES MARTIN

Turkey management. Fifth edition. Dan ville, Ill. The Interstate, 1949 774 p. illus. 21 cm. $4.50 2799

Contents: The turkey's place in American agriculture. Classification, origin, and history Terminology and varieties. Turkey shows and showing. Breeding principles and practices. Characteristics, management, and feeding of breeding stock. Trapnesting and pedigreeing. Artificial incubation. Artificial brooding and rearing. Turkey feeds and feeding. Marketing, selection, and grades. Malformations and bad habits. Disease prevention and sanitation. Diagnosis and control of diseases and parasites. Caponizing, sexing and artificial insemination. Appendix. Index.

Note: (2492) A standard work in which the results of modern scientific research are coordinated with practical procedures in commercial turkey raising. Literature references and considerable range of reference data are included. Changes from the preceding edition are not major, but they do include some revisions in tables and bibliographies. Also the index has been much improved.

RICE, JAMES EDWARD, AND HAROLD E. BOTSFORD

Practical poultry management. 5th edition. New York John Wiley & Sons, Inc., 1949 614 p illus. (part col d) 21 cm. (The Wiley farm series, A. K. Getman and E. R. East man editors) $3 95 2800

Contents: Culling the flock. Principles of selection. Housing the laying and breeding stock. Principles of housing poultry Feeding the laying and breeding stock. Principles of feeding layers and breeders. Anatomy and physiology of the domestic fowl. Using artificial illumination on laying and breeding stock. Keeping records of the flock. Studying the records. Diagnosing common diseases. Treating diseases and combating parasites, pests, and vices. Maintaining sanitary conditions. Preparing eggs for market. Preparing poultry for market. Selecting breeders. Mating the breeders. Renewing the flock. Hatching the eggs. Formation of the egg and chick. Brooding the chicks. Preventing and treating chick diseases, parasites, and vices. Capon production. Maintaining egg production during the summer. Mid-season care of young stock. Fitting, exhibiting, and judging poultry Classes, breeds, and varieties. Shall I be poultryman? Index.

Note (3046) The latest edition of standard manual and complete illustrated guide to the principles and practices underlying successful poultry raising. The book is especially suitable for beginners in poultry husbandry whether on farms and chicken ranches or in agricultural colleges and vocational schools. The new edition covers the advances of the 1940's, including the new types of housing and equipment introduced for labor-saving purposes, and the new types of feeding rations resulting from research in nutrient allowances for chickens.

TAYLOR, LEWIS WALTER, editor

Fertility and hatchability of chicken and turkey eggs. New York John Wiley & Sons, Inc. 1949 423 p. illus. 22 cm. $5.50 2801

Contents: The selection of the breeding flock, by W W Cravens. Formation of the hen's egg, by D. C. Warren. Fertility in chickens and turkeys, by J. E. Parker The care of hatching eggs before incubation, by E. M. Funk. Biochemistry of the developing embryo, by A. L. Romanoff. Physical conditions in incubation, by W M. Insko, Jr Genetics and physiology of embryonic development, by H. R. Moseley and W Landauer. Diseases in relation to hatchery operations, by W R. Hinshaw Education and research in fertility and hatchability by L. W Taylor. Appendix: Supplementary references. Incubation trouble-shooting chart. Glossary. Index.

Note: A review of all significant literature through 1947 on factors influencing fertility and hatchability of chicken and turkey eggs. It was published at the instigation of the International Baby Chick Association. Particular consideration is given by the authors to evaluation of results obtained from past research and to problems remaining to be solved. The book can serve both as college textbook and as source of information for those concerned with the practical applications of the subject. Extensive lists of pertinent literature are included.

WINTER, ALDEN RAYMOND, AND E. M. FUNK

Poultry science and practice. Edited by R. W Gregory Third edition. Philadelphia. J B Lippincott Company 1951 662 p. illus. 24 cm. $6 00 2802

Contents: The poultry industry Classes, breeds, and varieties of chickens. The anatomy and physiology of the chicken. Breeding principles. Breeding practices. Incubation principles and practices. Rearing principles and practices. Housing principles and practices. Feeding principles. Feeding practices. Diseases and parasite prevention and control. Marketing eggs. Marketing poultry Poultry farm management. Turkey varieties and breeding problems. Turkey production and management. Ducks, geese, and miscellaneous poultry. Game bird production, by James Hamilton. Appendix. Index.

Note: (3049) A comprehensive work designed for use both as text in agricultural college courses and as reference manual for agricultural extension workers and practical farmers. A wide range of information is presented in the text and 141 tables. The chapter on marketing of poultry may be cited as an example of the thoroughness of the treatment. This chapter is 41 pages long, considers

30 illustrations, 6 tables, and 3-page bibliography. Both small and large-scale packing methods are covered. The second edition was published in 1946. The third edition represents an extensive revision and augmentation. The type has been reset.

FISH CULTURE

TAYLOR, HARDEN FRANKLIN, AND OTHERS

Survey of marine fisheries of North Carolina. By Harden F Taylor and a staff of associates. Chapel Hill The University of North Carolina Press, 1951 555 p. illus 26 cm. $10.00. 2803

Contents (abridged) Foreword, by R. E. Coker. Part I, Hydrography of North Carolina marine waters, by H. Marshall. Part II, Biology and natural history of the economic species: Introduction, by H. F Taylor. The menhaden, by W A. Ellison, Jr. The edible finfishes of North Carolina, by E. W Roelofs. The oyster and other mollusks in North Carolina, by A. F Chestnut. The shrimps in North Carolina, by C. Broad. The blue crab in North Carolina, by J. C Pearson. The diamond-back terrapin in North Carolina, by R. E. Coker. The seaweed resources of North Carolina, by H. J. Humm. A preliminary survey of marine angling in North Carolina, by F LaMonte. Part III, Economics of the fisheries of North Carolina, by H. F Taylor. Bibliography Appendix. Index.

Note A comprehensive monograph that covers the biological, practical, economic, and legal aspects. Although limited to marine products that are of some importance in North Carolina the book is of more than local interest, because the marine products gathered by North Carolina fishermen are identical with those gathered by fishermen of many other regions. Similarly the discussions of economics and marketing are of general interest along at least the Atlantic seaboard of the United States of America. The book is essentially a skilled synthesis of published literature and it includes much information, especially economic information, that had not been published hitherto. Bibliographies and numerous statistical tables are included.

VETERINARY MEDICINE

DYKSTRA, RALPH RALPH

Animal sanitation and disease control. Revised and enlarged edition. Danville, Ill. The Interstate Printers-Publishers, 1949 808 p. illus. 21 cm. $3 75 2804

Contents (abridged) Part one, Some animal health factors: The anatomy and physiology of the organs of digestion in animals. Pulse, respiration and temperature. Vitamins, minerals and hormones as health requirements. Water and its influence. Animal housing and control. Animal surroundings and manure disposal. Part two, Some animal disease factors: Domestication and domestication. Hereditary factors and abnormalities. Insects and carriers and their role. Community sales, community dips, and transit losses. Part three, Some methods of disease control. The quarantine. Disinfecting procedures. Pasture rotation and sanitation. Destroying ailing animals and disposal of carcasses. Part four Infectants and their handling: Guides in the selection of chemical disinfectants and their modes of action. Non-chemical disinfection. Methods of application of chemical disinfectants. Part five, External and internal parasites and their control Disinfecting buildings. Some disinfecting agents and repellents. Rats, and some other rodents, and their control. Part six, Non-infectious, sporadic ailments: General statement and hereditary ailments. Some secondary ailments. Control and cosmetic devices, and ailments. Some surgical ailments. Plant, feed, and chemical poisonings. Deficiency ailments. Part seven, Infectious and communicable ailments of farm animals. Part eight, Some infectious and communicable ailments of barnyard fowl: General sanitary measures for the control of poultry ailments, and description of some of the ailments. Part nine, Parasites and diseases: Some larger (macroscopic) parasites. Some smaller (microscopic) parasites. Part ten, Miscellaneous information: Some special methods of diagnosis. Artificial feeding of orphaned animals. Methods of administering medicine to animals. Livestock breeding problems. Artificial insemination or artificial breeding. The sound and unsound horse. Some diseases common to man and animals. Part eleven, Livestock sanitary bureaus, boards, and commissions, and the veterinarian. Index.

Note (2077) A revised and enlarged edition, brought up to date, of a standard textbook on disease control in domestic farm animals. It is addressed to students, farmers, and others concerned with the health of livestock. Emphasized are the principles for the prevention of animal disease. The book is divided into 11 chapters covering all phases of the subject and contains 183 illustrations.

HADLEY, FREDERICK BROWN

Principles of veterinary science. Fourth edition illustrated. Philadelphia W B Saunders Company 1949 521 p. illus. (part col d) 21 cm. $5.00. 2805

Contents: Part I, Anatomy and physiology of animals: Introductory The animal world. The animal body as a whole. The skeletal system. The muscular system. The nervous system. The circulatory system. The respiratory system. The digestive system. The urogenital system. The special systems. Part II, Animal diseases: The meaning of disease. Veterinary medicine. Veterinary hygiene. Veterinary pathology Wounds and wound infections. Diseases of the digestive organs. Mineral and vitamin deficiency diseases. Veterinary surgery Veterinary obstetrics. Disturbances of the reproductive organs. Other noncommunicable diseases. Some communicable diseases. Veterinary parasitology Poisons and poisonings. Index.

Note: (1016) An introductory textbook for college courses. It is more suited to the needs of students who are interested in veterinary science as a phase of animal husbandry than to those students who are preparing for the veterinary profession. The sections on structure and function are designed to be of practical value in judging animal form, capacity, and productivity as well as in the solving of problems connected with the feeding and breeding of animals. In the present edition less space is devoted to the horse and more to the dairy cow One new chapter has been added, and the discussion of animal breeding has been enlarged to include recent advances in this field.

HAGAN, WILLIAM ARTHUR, AND DORSEY WILLIAM BRUNER

The infectious diseases of domestic animals with special reference to etiology diagnosis, and biologic therapy Second edition. Ithaca, New York Comstock Publishing Company Inc., 1951 920 p. illus. 24 cm. (Comstock series in veterinary medicine, William Arthur Hagan, consulting editor) $8.75 2806

Contents (abridged) Part I, The mechanisms of infection and resistance: The causes of disease. The protective mechanisms of the body Toxins and antitoxins. The lytic antibodies. The agglutinins and precipitins. Phagocytosis. Hypersensitization. Part II, Chemotherapy Part III, The pathogenic bacteria. Part IV Bacteria-like pathogenic organisms of uncertain classification. Part V The pathogenic fungi. Part VI, The pathogenic protozoa. Part VII, The viruses. Index.

Note (2077) A successful textbook for the instruction of college students of veterinary medicine. It is useful also to graduate practitioners of veterinary medicine and research workers as a reference manual and guide to the literature. Although arranged largely according to standard biological groups, there is little emphasis on morphology and classification. Instead, for each organism such matters are discussed as culture, pathogenicity for experimental animals, disease manifestations in domestic animals, modes of transmission, diagnosis, chemotherapy etc. Also if the organism is pathogenic to man this fact is stated. In comparison to the first edition the book has been very extensively rewritten. It is more than 200 pages longer and now contains 153 figures. The authors are faculty members of the New York State Veterinary College at Cornell University

MCCAY CLIVE MAINE

Nutrition of the dog. Second edition. Ithaca, New York Comstock Publishing Company Inc., 1949 337 p. illus. 22 cm. $3.50 2807

Contents: Man and their dogs. Carbohydrates for dogs. Fat in the diet of dogs. Proteins for dogs. Amino acids and protein derivatives. Mineral requirements of dogs. Fat-soluble vitamins. Water-soluble vitamins. Modern dog foods. The ingredients of dog foods. Plant foods. Testing dog foods. Blood and bone. Practical feeding and management of dogs. Kennels and equipment. Parasites and their control. Questions about foods. A shelf of books for the dog owner. Index of persons. Index of subjects.

Note: Offering more than the title suggests, this book is guide to the care and the feeding of dogs. The style is sufficiently nontechnical to make the book available to the average owner of dog, but the wide range of information included, together with the extensive literature references, gives the book enough substance to make it valuable to *veterinarians as well. Each chapter* includes an introductory section of essential information which is then developed on more technical lines. This edition incorporates recent advances and is more than twice as long as the first edition published in 1943. Statements in the text are keyed to the bibliographies. References are given to papers published in both U.S.A. journals and the journals of other countries.

MERCHANT, IVAL ARTHUR
Veterinary bacteriology and virology Fourth edition. Ames, Iowa Iowa State College Press 1950 885 p illus. 24 cm. $8.50 2808

Contents (abridged) Part one, General biology of microorganisms: The physiology of microorganisms. Bacteriological technics and methods. Sterilization and disinfection. Antibiotic agents. Part two, Infection, resistance and immunity: The mechanism of infection. Toxin and antitoxin. Agglutination and precipitation. Cytolysis and complement fixation. Phagocytosis. Anaphylaxis and allergy. Part three, Classification and characteristics of pathogenic bacteria, yeast and molds. Part four The filtrable viruses and bacteriophages: General characteristics of virus diseases. Methods used in the study of viruses. Classification of viruses. Index.

Note (1510*) A standard textbook for introductory courses in veterinary colleges and reference manual for practicing veterinarians. About equal emphasis is given to morphology and to physiology. In parts 3 and 4 there are systematic descriptions of genera in which the following points are covered for each genus: synonyms and history distribution and transmission, morphology cultural requirements, resistance, biochemical properties, antigenic structure, pathogenicity immunity and laboratory diagnosis. In this edition the length of the book has been increased by approximately 200 pages. The section on filtrable viruses and bacteriophage has been much enlarged and other sections have been revised. There are 143 figures and extensive literature references.

MULLIGAN RICHARD MICHAEL
Neoplasms of the dog. Baltimore The Williams & Wilkins Company 1949 135 p. illus. 23 cm. $4 00 2809

Contents Introduction. Mammary neoplasms. Epithelial neoplasms of skin and adnexa. Neoplasms of mesenchymal origin and of nerve sheath cells. Melanoma. Mast cell sarcoma, lymphosarcoma, histiocytoma. Neoplasms of endocrine glands. Other neoplasms. Technical supplement. Bibliography Index.

Note. A compact monograph in which most of the space is given to the commoner neoplasms while the uncommon ones are described rather briefly It is concerned with diagnosis and classification, not with treatment. However data relating incidence to age and sex are included. There are 30 plates, most of which contain reproductions of more than one photograph. Microphotographs of neoplastic tissues predominate but there are also number of photographs of gross specimens. The book is of interest to teachers and students of veterinary pathology and to practicing veterinarians.

NEWSOM, ISAAC ERNEST
Sheep diseases. Baltimore The Williams & Wilkins Company 1952 352 p. illus. 24 cm. $7.00 2810

Contents: Part I, Infectious diseases: Diseases due to bacteria. Diseases due to fungi. Diseases due to protozoa. Diseases due to filterable viruses. Diseases due to rickettsiae. Part II, Parasitic diseases: Diseases due to external parasites. Diseases due to internal parasites. Part III, Non-infectious diseases: Diseases due to deficiency *Neoplasms.* Diseases of the digestive system. Diseases of the respiratory system. Diseases of the urinary system. Diseases of the genital system. Diseases of the circulatory system. Diseases of the nervous system. Diseases of the skin and of the ear. Part IV Poisons: Diseases due to inorganic poisons. Diseases due to organic poisons. Diseases due to poisonous plants—photosensitization. Diseases due to plants containing hydrocyanic acid (prussic acid). Diseases due to plants containing selenium. Diseases due to other plants. Index.

Note: An inclusive textbook and reference manual which is devoted entirely to discussions of specific diseases. The typical essay on disease covers such points as etiology symptoms, morbidity mortality anatomy treatment, and literature references. The essays on parasitic diseases contain also descriptions of the life cycles of the parasites. There are 118 illustrations and lists of literature references. The book is of interest to practical sheep breeders, veterinarians, agricultural extension workers, and students of veterinary medicine. The author is Dean of Veterinary Medicine of *Colorado Agricultural and Mechanical College.*

SEIDEN, RUDOLPH
Livestock health encyclopedia the control of diseases and parasites in cattle, sheep and goats, swine, horses and mules with explanation of veterinary, medical, pharmaceutical, chemical, and other scientific terms. Based on official publications. New York Springer Publishing Company Inc., 1952 614 p. 24 cm. $7.50 2811

Note. An alphabetically-arranged reference book designed for the use of farmers rather than veterinarians. Most of the entries are short but some run to full page or more. A wide range of information is included, some of it rather technical. Most entries are keyed to citation of the source publication from which the information given was derived. The bibliography of these publications constitutes useful list of currently useful state and federal government publications.

WHITNEY LEON FRADLEY
The complete book of home pet care. Garden City New York Doubleday & Company Inc., 1950 552 p. illus. 22 cm. $4 95 2812

Contents (abridged) The animal body and how it functions. Drugs and their uses. Minor operations and home surgery How to give medicines and apply accessories. Problems of reproduction. Sanitation and hygiene. Health hazards in hospitalization, boarding. Shows and shows. How to feed your dog. Raising puppies. General diseases of dogs. The digestive tract. Parasites. Cats and their food. Breeding and raising kittens. General diseases of cats. Miscellaneous feathered pets. The care and feeding of birds. Diseases of birds. The care and breeding of aquarium fishes. Ailments of fishes. Other pets. Selected bibliography Index.

Note. An encyclopedic compendium of the information about the feeding and elementary care of such animals as dogs, cats, rabbits, guinea pigs, birds, fishes, and turtles. The author is veterinarian but the book is designed for owners of pets rather than professional veterinarians or commercial breeders. A wide range of helpful information is included and is made quickly available by an exceptionally full index.

FORESTRY

ALLEN, SHIRLEY WALTER

An introduction to American forestry Second edition. New York McGraw Hill Book Company Inc., 1950 413 p. illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) $6 00 2813

Contents: Man and the forest. Building the country with forests. Where our forests are and what they produce. What a forest is. What forestry is. Forestry that starts with a forest. Forestry that starts with bare ground. Defending the forest from fire. Defending the forest from attacks of insects and other animals. Defending the forest from fungous pests and from the elements. Measuring the forest. Harvesting the forest crop. Making forest products adaptable and durable. Beneficial influences and services from the forest. Forestry as a public policy in the United States. How the Forest Service and other Federal bureaus practice forestry. How the states and communities practice forestry. The practice of forestry on private lands. Education in forestry—the profession of forestry. Forestry and national planning. Appendix Selected forest-fire statistics. American forest schools. Index.

Note: (3090) An inclusive, introductory work used primarily as a text in college courses and secondarily as a source of general information about forestry and forest conservation in the United States of America. It is written in a simple style and most of the material is descriptive. The first edition was published in 1938. Numerous minor revisions are apparent in this edition but the book has not been extensively revised.

BAKER, FREDERICK STORRS

Principles of silviculture. New York Mc Graw Hill Book Company Inc. 1950 414 p. illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) $5.50. 2814

Contents: Introduction. Forests in general—their form and composition. Ecological classifications of forests. Classification by site, quality and density. Tolerance and crown classes. Water supply of the forest. Utilization of water by the forest. The photosynthetic process. Nitrogen and mineral nutrition (forest soils). Production of seed. Dissemination of seed. Overwintering losses of seed. Germination of seeds. Establishment; mortality of seedlings. Growth of trees in general. Height growth of trees. Growth of trees in diameter. Growth of trees in volume. Growth of stands. Biology of the growth of stands. Bibliography. Index.

Note: (3091) A college textbook in which the chief emphasis is on the physiological aspects of trees and forestry. There are full discussions of such topics as transpiration, the development of seedlings in the succulent stage, survival of seedlings under various conditions, and relations between growing space and production of merchantable timber. A bibliography of 519 references is included. The book is an extensive revision of the first half of the author's *Theory and practice of silviculture*, New York, 1934.

BAXTER, DOW VAWTER

Pathology in forest practice. Second edition. New York John Wiley & Sons, Inc., 1952 601 p. illus. 24 cm. $7 50. 2815

Contents: Plant disease. The fungi that cause disease. Loss and appraisal of damage. Relation of nursery site and practice to disease incidence. Relation of site and cultural practice to disease incidence in plantations. Relation of site and cultural practice to disease incidence in the mature forest. Relation of fungi and certain other plant pests to disease in the mature forest. Relation of site and care of shade and park trees to disease incidence. Handling and treatment of forest products in relation to decay and certain other defects. Discolorations, stains, and molds in forest (and allied) products. Index.

Note (3093) A practical treatment of tree diseases in the sense that the subject is treated from the viewpoint of professional foresters and others who are concerned with silviculture or with the marketing and use of lumber. Disease in tree nurseries and in ornamental tree plantings also is covered from a practical viewpoint. Approximately equal emphasis is placed on descriptions of tree diseases and on their control. A wide range of useful information has been added in this edition. The new material pertains both to recent developments in the understanding of specific diseases and in control methods.

BRAUN EMMA LUCY

Deciduous forests of eastern North America. Philadelphia The Blakiston Company 1950 596 p. illus. 23 cm. $10 00. 2816

Contents: Part I, Introduction. The forest. Forest ecology and terminology. Part II, The deciduous forest formation. The deciduous forest as a whole. The mixed mesophytic forest region. The western mesophytic forest region—a transition region. The oak-hickory forest region. The oak-chestnut forest region. The oak-pine forest region. The southeastern evergreen forest region. The beech-maple forest region. The maple-basswood forest region. The hemlock-white pine-northern hardwoods region. Part III, The evolution of the present pattern of forest distribution. Problems of forest distribution. The paleobotanic record. Disjunct occurrences of species and communities and their significance in forest migration. A brief physiographic history of eastern United States. A chronologic account of forest development correlated with physiographic history. The relationships of climates and the climax elements of the forest regions. Bibliography. Index of scientific and common names. Subject index.

Note An important reference book written on the basis of more than 25 years of field study throughout the deciduous forests of eastern North America supplemented by study of the literature of the subject. It provides a broad view of the entire forest area, portraying the present pattern and so far as possible reconstructing the pattern of the original forest, presenting data on composition and aspect of forest communities in all parts of the forest area, and tracing through geologic time the development and distribution of forests in eastern North America. The bibliography includes about 800 references and the illustrative material consists of 84 photographs, 91 tables, and 9 maps. A folding map measuring 60 × 69 cm. of the forest regions of eastern North America, which is supplied folded inside the back cover of the book mounted on linen and rolled, may be obtained from the publisher at $1.50 per copy

BROWN NELSON COURTLANDT

Logging the principles and methods of harvesting timber in the United States and Canada. New York John Wiley & Sons Inc., 1949 418 p. illus. 24 cm. $5 50. 2817

Contents (abridged) Part I, General introduction. Forest utilization. Forest resources and stumpage valuation. Forest labor and housing. Partial cutting (selective logging) Part II, Preparation of logs for transport: Felling and bucking. Part III, Minor log transportation. Animal skidding. Tractor logging. Power logging—cable logging systems. Part IV, Loading for transport. Part V, Major land transportation: Chutes. Wheeled vehicles—animal and tractor draft. Sleds. Motor trucks. Forest railroads. Part VI, Major water transportation. Floating and driving. River and lake rafts and booms. Ocean rafts. Flumes. Barges and steamers. Summary of regional logging methods. Index.

Notes: (3118–9) The several books by Professor Brown on various aspects of the lumbering industry are well known to students of forestry and to the industry. The present volume brings together in revised form two earlier works. *Logging—principles and practices*, New York, 1934 and *Logging—transportation*, New York, 1936. It constitutes a practical and up-to-date guide to the methods and techniques of felling, handling, collecting, and transporting lumber as practiced in the United States and Canada. Particularly valuable are the descriptions of the latest types of equipment, the tabulations of data regarding operating costs and production estimates, and

the numerous photographs and diagrams illustrating operating methods. The extensive bibliographies contained in the two earlier volumes have been omitted in this revision.

Chapman, Herman Haupt, and Walter H. Meyer

Forest mensuration. New York McGraw Hill Book Company Inc. 1949 522 p illus. 24 cm. $5.50. 2818

Contents (abridged) Elementary computations. Cord or stacked measure. Cubic volume of logs. The measurement of board feet in the log. Construction of log rules. Piece products. Determination of volume of felled trees for the construction of volume tables. Local tree volume tables. The construction of standard volume tables for cubic feet. The construction of alinement charts for standard volume tables for cubic feet. The construction of standard volume tables for board feet. The construction and application of taper tables. The measurement of diameters of standing trees. The measurement of heights of standing trees. The boundary survey and determination of total area. Timber estimating for cubic and cord measure. Timber estimating for board feet by use of log rules. Measurement of piece products in the tree. Fundamental statistical techniques. The age of trees and stands. The growth of trees and of stands. Normal yield tables for even-aged stands and their construction. Periodic and current growth in diameter based on stand tables. Growth percentage. Sample plots. The forest survey or inventory Appendix. Index.

Note: (5111) Forest mensuration is treated on an advanced but practical level in this work. The table of contents indicates the wide scope. Not only are log rules and volume tables discussed but the other techniques that may concern foresters and timber surveyors such as the establishing of boundaries in lands surveyed long ago are covered also. Problems such as the varying contents of the cord and the accuracy of established log rules are analyzed. The estimating of growth and yields is fully discussed. Extensive bibliographies are included. The book is text for college students of forestry and manual for graduate foresters. It supersedes H. H. Chapman and D. B. Demeritt, *Elements of forest mensuration*, 1932.

Craighead Frank Cooper, and others

Insect enemies of eastern forests. Washington, D C. Government Printing Office, 1950 679 p illus. 24 cm. (United States. Department of Agriculture. Miscellaneous publication no 657) $2.50 2819

Contents: Introduction: Relation of insects to forest and ornamental trees. Prevalence and activity of forest insects. Insects and diseases. The control of forest insects. Natural control factors and influences. Silvicultural control of forest insects. Insects attacking shade and ornamental trees. Borers in living trees. Insects in nurseries and young plantations. Insects attacking forest products. Bark beetle control. Insecticidal control of insects in the forest, by R. F Potts. The use of beneficial insects in the control of forest tree pests, by R. C. Brown. The zoological position of insects and some of their common relatives: Crayfish and shrimps. Millipedes and centipedes. Scorpions. Pseudoscorpions. Spiders. Harvestmen. Mites, ticks, and red spiders. Marine borers, by R. A. St. George. The forest insects: Practical keys to the orders, families, and genera of forest insects, based on types of injury. Important orders of insects. *The termites, by T E. Snyder. Grasshoppers, katydids,* walkingsticks, and related forms, by M. D. Wygant. Sucking insects, by W L. Baker and others. The beetles, by F C. Craighead and others. Butterflies and moths, by J V Schaffner Jr. The flies, by R. T Webber. Hymenoptera. The sawflies and horntails, by J V Schaffner, Jr and William Middleton. Bees, wasps, ants, and parasites, by P B. Dowden. *Literature cited.* Index.

Note: This publication treats in practical manner the more important forest insects of the United States east of the Great Plains (or, roughly east of the 100th meridian) The insects are described in systematic order with numerous illustrations, chiefly photographic. Keys to assist in identification are frequent. There is considerable discussion of practical control methods. The work is companion volume to F P Keen, *Insect enemies of western forests* (United States. Department of Agriculture. Miscellaneous publication no. 273)

Flick Frances Josephine, compiler

The forests of continental Latin America (including European possessions) A bibliography of selected literature, 1920–1950. Washington, D C. Government Printing Office, 1952 193 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 18) Paper, $0 45 2820

Contents: Sources consulted. General. Argentina. Bolivia. Brazil. Central America: British Honduras. Costa Rica. Guatemala. Honduras. Nicaragua. Panama. El Salvador Chile. Colombia. Ecuador. The Guianas: British Guiana. French Guiana. Surinam (Dutch Guiana). Mexico. Paraguay Peru. Uruguay Venezuela. Periodicals. Index.

Note. An annotated bibliography of books and periodicals published between 1920 and 1950. A total of 1957 books and articles is listed. For each item are given author, title, publication data. Brief annotation follows where scope of the article is not clearly indicated in the title. Outside the scope of the bibliography are such commodities as Hevea rubber, cinchona, and palm products, which are subject to separate bibliographic treatment. Also omitted, or included only incidentally are references on economic botany wood technology, forest legislation, commodity production statistics, and trade statistics.

Graham, Samuel Alexander

Forest entomology Third edition. New York McGraw Hill Book Company Inc., 1952 351 p illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) $6 00. 2821

Contents: Introduction. Historical review. Detection and appraisal. Reproductive potential. Environmental resistance. Population levels. Direct control of tree insects. Direct control by chemical methods. Insecticides and their effects. Methods of indirect control. Indirect control by parasites and predators. Indirect control by silvicultural practices. *Leaf-eating insects. Sap-sucking insects. Meristematic insects. Phloem insects. Phloem-wood insects. Wood destroyers.* Bibliography Index.

Note. (5099) An introductory work addressed primarily to college students of forestry but potentially valuable to any mature reader in need of survey of the problem of control of insects injurious to forests. The subject is treated from the viewpoint of forestry and even in the chapters on kinds of insects, the author has not attempted to name all the injurious insects. The emphasis is on biological and chemical control methods and on matters related to control, such as the effects of weather. The second edition was published in 1939. In comparison this edition represents very extensive revision with much material on such topics as chemical control, that did not appear in the 1939 edition. There are new 85 figures and 12-page classified bibliography

Guise, Cedric Hay

The management of farm woodlands. Second edition. New York McGraw Hill Book Company Inc. 1950 356 p. illus. 24 cm. (The American forestry series, Walter Mulford consulting editor) $6 00. 2822

Contents: Farm woodlands and forestry The structure and physiology of trees. Ecology of woodlands. The volumes of woodland products. Surveys and maps. The volumes of trees and stands. The increment and yield of growing timber. The care and improvement of woodlands. Establishing new woodlands—forest planting. Protection of farm woodlands. The utilization of woodland products. The marketing of woodland products. The durability and preservative treatment of farm timbers. Woodland management. Index.

Note (5100) A standard description of forestry principles and practices applicable to the management of small woodlands and timber stands on farms in the United States of America and especially in the northeastern part of that country The emphasis is on principles and practices that will produce continued and profitable yield. The book is used chiefly as college text, however it is also suitable for use as manual of practical information. The first edition was published in 1939. This edition lacks most of the statistical material that appeared in the first edition, but useful material has been added on such topics as timber estimating, logging methods, and tree planting.

Meyer, Hans Arthur, and others

Forest management. By H. Arthur Meyer Arthur B Recknagel and Donald D Steven

son. New York The Ronald Press Company, 1952 290 p. illus. 24 cm $6 00. 2823

Contents: Part I, Introduction: Scope and objectives of forest management. History and present status of forest management. Part II, General organization of forest property for management: Ownership, boundaries, and subdivisions of forests. Maps and classification of forest conditions. Actual growing stock and growth. The development and improvement of forests. Business aspects of forest management. Part III, Forest regulation. Problems and scope of forest regulation. The normal even aged forest. The normal uneven aged forest. Methods of regulation of cut. Part IV Management plans: Types and forms of management plans. Farm woodlands and other small forest properties. Management plans for medium and large forests. Control and revision of management plans. Index of names. Index of subjects.

Note: The chief distinctive feature of this text is its presentation of the principles of forestry from the standpoint of American conditions, where such factors as higher labor costs and lower product costs make inapplicable some of the principles and techniques developed in Europe. Such problems as the determination of "best" plan of rotation are discussed against the historical background and the economic, technical, and silvicultural factors in American forestry As the title indicates, the book is about management. Though problems of finance, logging, protection, etc., are noted as closely influencing the execution of management plans, they are not developed. Both European and United States of America literature is included in the lists of literature references. One of the authors is college teacher of forestry one is on the staff of large paper company and one is staff member of the United States Department of Agriculture.

PRESTON, JOHN FREDERICK

Farm wood crops. New York McGraw Hill Book Company Inc., 1949 302 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) $4.50 2824

Contents: Introduction. National aspects of farm woodlands of the United States. Financial value of woodlands in the farm business. Other farm woodland values. Problems of forestry on the farm. Assistance available to farmers. Farm planning involving the woodland. Developing farm woodland enterprise Practices on farm woodlands. Establishment of new woodlands. Tools and equipment. Building farmer clientele. Appendixes References in the text. Bibliography Glossary Index.

Note: This book is concerned primarily with the principles of handling farm woodland as branch of general farming and secondarily with the actual techniques of forestry. It is compiled textbook of farm forestry intended both as text for students and as technical guide for farmers wishing to develop farm woodland enterprise. It may also be useful to conservationists who wish to show farmers the financial and other advantages of farm woodland enterprise.

SHIRLEY HARDY LOMAX

Forestry and its career opportunities. New York McGraw Hill Book Company Inc., 1952 492 p. illus. 24 cm. (The American forestry series, Henry J Vaux, consulting editor) $6.50. 2825

Contents: The meaning of forestry Forestry throughout the ages. The development of forestry in the United States. Forest regions Protecting forests. Forest care and use. Harvesting timber crops. Lumber manufacture and sale. Wood, its nature, and uses. Wood chemistry paper, and plastics. Secondary forest products. Wildlife and range management. Forests and recreation. Protecting soil and watersheds. The business of forestry Social benefits of forestry World and national forest resources. Recent programs and progress. Proposed programs of forestry The profession of forestry Employers of foresters. Forest employment by regions and fields. Education in forestry Research in forestry Administration in forestry Trends and outlook in forestry Index.

Note: A survey book that presents picture of contemporary forestry in relation to the national and world economy and also describes the scope and techniques of forestry. It is addressed particularly to young people who are thinking of adopting forestry as career, but its scope is wide enough to make it useful to general readers and others in need of general information on forestry. The author is Dean of the College of Forestry of Syracuse University.

SOCIETY OF AMERICAN FORESTERS

Forestry terminology A glossary of technical terms used in forestry Original edition compiled and edited by Committee on Forestry Terminology, Ralph C. Hawley chairman. Revised edition compiled and edited by Committee on Forestry Terminology, Edward N Munns, chairman. Washington D C Society of American Foresters 1950. 93 p 26 cm. $3.00. 2826

Note (1311) An alphabetical listing, with definitions, of words and terms used by foresters. The scope of the contents is shown by the names of the ten subcommittees of the Committee on Forestry Terminology responsible for the publication Forest entomology Forest fires, Forest pathology Lumbering and wood using industries, Forest management, Forest mensuration, Range management, Recreation and wildlife, Silviculture, Wood technology; these subcommittees decided on terms to be included and excluded and were responsible for the drafting of the definitions. Some words have been included which were omitted from the 1944 edition, added definitions have been given for many terms, and in certain cases definitions have been rewritten. A total of 3400 words and terms are defined, aside from which the vocabulary contains many cross references.

SOCIETY OF AMERICAN FORESTERS COMMITTEE ON HISTORY OF FORESTRY

Fifty years of forestry in the U S. A. Edited by Robert K. Winters. Washington Society of American Foresters, 1950 385 p. 24 cm. $4.00 2827

Contents: The first half century, by Robert K. Winters. Forest protection, by H. T Gisborne. Silviculture, by F S. Baker. Forest management, by H. H. Chapman. Forest utilization, by Nelson C. Brown. Range management, by L. A. Stoddart. Forest wildlife management, by Warren W Chase. Forest influences, by Bernard Frank. U. S. Forest Service, by Lyle F Watts. U. S. Department of the Interior by John F Shanklin. Other Federal agencies, by S. Blair Hutchison. State forestry, by Joseph S. Illick. Industrial forestry by W B. Greeley Farm forestry by Joseph F Kaylor. The Society of American Foresters, by Shirley W Allen. Citizens and trade associations dealing with forestry by Charles A. Gillett. Education in professional forestry by Ralph S. Hosmer. Forest research, by Leonard T Dana. American and world forestry by S. B. Show Appendixes. Literature cited. Index.

Note: The major aspects of the development of forestry in the United States of America are covered in this sponsored work. Considerable attention is paid to the enactment of legislation, the growth of government agencies, and the development of forestry as profession. Apparently because of space restrictions many of the chapters are little more than outlines, but important dates are given and outstanding men and associations are named. The bibliographies are not comprehensive but are limited more or less to the publications referred to by the various authors in their papers.

SPURR, STEPHEN HOPKINS

Forest inventory New York Ronald Press Company 1952 476 p illus. 24 cm. $8.50 2828

Contents: Part I, Forest measurement: Tree measurement. Measurement of trees and stands on aerial photographs. Sample plots. Part II, Volume estimation. Tree-volume computation. Theory of tree-volume estimation. Methods of volume table construction. Total cubic-foot volume. Factors affecting total cubic-foot volume. Merchantable cubic-foot tree volume. Board foot tree volume. Tree-volume tables for use with aerial photographs. Direct estimation of stand volume. Part III, Growth estimation The growth of trees and stands. Continuous inventory Stem analysis. Stand table projection. Yield tables. Growth tables. Density Site. Growth correlations. The two-way method of predicting growth. Part IV Sampling and inventory designs: Theory of sampling. Sampling applied to forest inventories. Ground surveys. Aerial photographic surveys. Combined photographic and ground surveys. Aerial photocruise tests. Large-scale European and American surveys. Bibliography Index.

Note: The increasing use of aerial photographs in determining not only the kind of trees on forest area but also—in some cases—the volume of harvestable timber has prepared the way for the

comprehensive, critical presentation of currently useful techniques of forest mensuration. The uses and limitations of aerial photographs are discussed fully and practical techniques for combining aerial surveys with the ground cruising of sample plots are described. The book is addressed to advanced students of forestry and to persons who are professionally in charge of large scale forestry and timber projects. Information from the published literature and original material based on the author's investigations are both included. Literature citations are included in the text and the book concludes with a comprehensive bibliography

UNITED STATES. DEPARTMENT OF AGRICULTURE

Trees the yearbook of agriculture, 1949 Washington, D C Government Printing Office, 1949 944 p illus. (part col'd) 24 cm. (United States. Department of Agriculture. The yearbook of agriculture, 1949) $2 00 2829

Contents (abridged) The editor to the reader by A. Stefferud. The tree: A tree is a living thing, by N T Mirov Trees remembered and remembering, by G. H. Collingwood. Trees and homes Trees for the country home, by W H. Larrimer City trees, by L C. Root and C. C. Robinson. Shade trees for the Northeast, by A. M. Waterman and others. Shade trees for the Southeast, by R. M. Lindgren and others. Shade trees for the Plains, by E. Wright and T W Bretz. Shade trees for the Rockies, by L. S. Gill. Shade trees for California, by W W Wagener. Shade trees for the north Pacific area, by T W Childs Forests and men The community of trees, by J H. Buell. Forest types of the United States, by W A. Dayton. Forests and soils, by J T Auten and T B. Plair Forest renewal, by L. I. Barrett. Direct seeding of trees, by W E. McQuilkin. Amateur tree breeders? Why not? by E J Schreiner. Production of planting stock, by P M. Carmean and others. The small woodland. Cash crops from small forests, by R. E. McArdle. Cooperatives and small woodlands, by A. W Bratton. Windbreaks and shelterbelts, by J. H Stoeckeler and R. A. Williams. The job of planting trees: a survey, by P C. Wakeley and G. W Jones. How to care for your small forest, by M. M. Bryan. Harvesting the small forest, by A M Sowder The farmer and Christmas trees, by A. M. Sowder Company forests: Large private holdings in the North, by H. L. Shirley Private forestry in the West, by C. L. Tebbe and H. J Andrews Forestry on large ownerships in the South, by J. H. Stone and others. Naval stores, the industry by J. Ward. Naval stores, the forests, by C E. Ostrom and J W Squires. The national forests The people's property by C. M. Granger. Appalachian comeback, by M A Mattoon. The Arkansas cooperative, by J. K. Vessey Evolution of management on Chippewa, by H. B. Wales. Forestry in the Black Hills, by A. F C. Hoffman and T Krueger New security for forest communities, by D. J. Kirkpatrick. Rebuilding a southern forest, by F A Albert. Pine forests of California, by B. O. Hughes and D Dunning. Forests of Alaska, by B. F Heintzleman. The administration of national forests, by E. W Loveridge Projects of many uses State forests, by S. G. Fontanna. Community forests, by G A Duthie. Arboretums, places of beauty and science, by W H. Larrimer and E J Schreiner. Insects, diseases, parasites: Insects in the forest, a survey, by F C. Craighead and J M. Miller The key to protection, by S. A. Rohwer The spruce budworm, by R. C Brown and others. Pine bark beetles, by F P Keen. Insects in wood products, by T E. Snyder. Controlling the tussock moth, by P H. Roberts and J C. Evenden. Diseases and the forest, by L M Hutchins. Dutch elm disease, by R. U. Swingle and others Blister rust on white pine, by J F Martin and P Spaulding. Breeding and selecting pest-resistant trees, by R. B Clapper and J M. Miller The airplane in forest-pest control, by J S Yuill and C. B Eaton Fire, friend and enemy: Building a fire organization, by E S. Pierce and C. A. Gustafson. Forest fire danger by G. L. Hayes. Fighting fires from the air, by C. S. Crocker Fire as a tool in southern pine, by A. W Hartman. Fun in the forests New values in the minds of men, by L. F Kneipp. Trail riding in the wilderness, by S. W Allen. Treasures of the nation, by C. L. Wirth and J H. Gadsby Safety for forest visitors, by R. R. Monahan. Forests and wildlife: Forests as wildlife habitat, by L. W Swift. Trees and food from acorns, by A. A. Downs. Managing Utah's big-game crop, by D. I. Rasmussen and D M Gaufin. Forests and fish, by P R. Needham and F W Johnson. Action on the Blue Ridge, by T C. Fearnow and L. T Quinn. Watersheds and how to care for them, by G. W Craddock and C. R. Hursh. T help control floods, by G. R. Phillips and R. Frank. Wood to use: Seasoning of wood, by R. C. Rietz. Preservative treatment of wood, by T R. Truax. Fungi and wood, by C. Hartley The gluing of wood, by D Brouse. Chemicals from wood, by A. J. Stamm. The Forest Products Laboratory, by G. M. Hunt. The foresters' calling: Education in forestry by S. T Dana. Teachers and conservation, by J L. Beatman. National forest personnel, by H. D. Cochran. Industrial forestry associations, by C. Collins. Picturing forests from the air by R. D. Garver. Railroads and foresters, by R. N Hoskins. Yesterday and today: The history of forestry in America, by W N Sparhawk. Today and tomorrow: Forest resources and the nation's economy by E. C. Crafts and M. A. Dieta. The world forest situation, by S. B. Show. A national program for forestry by L. F Watts. Lists and other aids: Important forest trees of the United States, by E. L. Little, Jr. Fifty trees from foreign lands, by E. L. Little, Jr. Key for the identification of woods without the aid of a hand lens or microscope, by A. Koehler Trees best adapted for special purposes. A vacation guide: National forests. Natural areas. Areas administered by the National Park Service. Public forest-tree nurseries. State forestry agencies. Publications of the Forest Products Laboratory For further reading: a bibliography Some words woodsmen use. Index.

Note The purpose of this large collection is explained in the words of the editors: "We have tried here to put into clearer perspective some items of history importance, administration, and outlook that so far have been in scattered form. We have tried to tell the essentials of choosing, planting, and growing trees as a farm crop, as a renewable natural treasure, as a necessary part of country and city life. We have tried to make a book that is practical and useful for all Americans and interesting and inspiring for those who are unaware of the beauty and delight of the woods. The papers were written for the work by many outstanding specialists in forestry conservation and related fields.

UNITED STATES. FOREST SERVICE

Woody-plant seed manual. Prepared by the Forest Service. Washington, D C. Government Printing Office 1948 [i.e., 1949] 416 p. illus. 27 cm (United States. Department of Agriculture. Miscellaneous publication no. 654) $3 00 2830

Contents (abridged) Part 1 Seed and its development: Flowering. Pollination and seed formation. Seed structure. Types of seed. Seed ripening. Germination. Biological changes during germination. Types of germination. Seed production and dispersal. Sources of seed. Collection, extraction, and storage. Treatment of seed prior to sowing. Seed testing. Literature cited. Part 2, Bibliography Uses of trees: Wildlife purposes. Wood production. Erosion control. Shelter belts. Ornamental planting. Glossary Index of plant names used in part 2.

Note: A manual of information on all phases of woody-plant seed handling for seedsmen, nurserymen, and foresters. It contains the results of more than 20 years of studies. The information on such points as the time of seed ripening, behavior of the seed after planting, viability, storage of seed, and pretreatment to induce prompt germination is based on both laboratory and field tests and practices. The first part gives general principles on the various phases of seed handling from formation of the seed to sowing; the second part provides detailed yet concise information on the seeds of all principal American species and varieties of trees and shrubs, including data on distribution and use, descriptions of seeding habits, methods of seed collection, extraction and storage, seed germination, and nursery and field practice, with illustrations of the seeds and seedlings. As the manuscript of the manual was completed for publication at the beginning of World War II, the bibliography for the most part lists no publications later than 1941.

UNITED STATES FOREST SERVICE. DIVISION OF TIMBER MANAGEMENT

Timber management plans on the national forests, by L. S. Gross forester Washington, D C. Government Printing Office, 1950. 59 p. illus. 26 cm. o.p 2831

Contents Planning management plans. The working circle: Timber and land. Boundaries. Subdivisions. The management plan: Timber and land. Transportation. Economics. Silviculture. Regulation of cut. Acquisition. Cutting policy Tending the forest. Protecting the forest. Working the relation with other uses. Management of other lands. Appendix: plan Annual plans. Control records. Selected references. Use of aerial Management plan outline. Management plan surveys. photographs in management plans. A continuous inventory basis for determining growth, mortality and yield. The use of yield tables for determining growth, mortality and yield. Regulation of cut, R-6.

Note. A handbook on the preparation of timber management plans which are essential to the attainment of the U. S. Forest Service objective of sustained yield. Although primarily designed for use within the service, it contains valuable information on the formulation of timber management plans in any forest area.

WACKERMAN, ALBERT EDWARD

Harvesting timber crops. New York Mc Graw-Hill Book Company Inc. 1949 437 p. illus. 24 cm. (*The American forestry series*, Walter Mulford, consulting editor) $6 00 2832

Contents: Introduction. Part I, Considerations preliminary to actual harvesting: Timber crops—the goal of forestry. The development of forest industries in America. The origins of modern timber harvesting methods. Planning the timber harvest. Woods labor. Part II, Preparation of trees for removal from the forest: Selection of trees to cut. The felling operation. Bucking felled trees. Hewing, riving, and peeling. Tools used in felling, bucking, and processing trees. Part III, Movement of products from the forest: Bunching products in the forest. Skidding forest products. Loading forest products. Transportation of products from the forest. Part IV Organization and control of harvesting operations: Measurement of forest products. Organization of harvesting operations. Costs and records. Regional harvesting practices. The Northeast, by F C. Simmons. The Lake states, by George Banzhaf. The western pine region, by T J. Orr Jr. The Douglas fir region, by W D. Hagenstein. California redwood, by Emanuel Fritz. Southern hardwoods, by E. R. Linn. The southern pine region, by W C. Hammerle. Selected references. Index.

Note: A well-organized text which is designed for college students of forestry and practical foresters. Emphasis is on the forestry aspects rather than on the engineering aspects of harvesting, although the third part of the book dealing with the movement of products from the forest necessarily covers certain of the engineering phases of the operations. A feature of the volume is the section on regional harvesting practices written by regional authorities on timber harvesting in different parts of the United States.

WESTVELD, RUTHFORD HENRY

Applied silviculture in the United States. Second edition. New York John Wiley & Sons Inc., 1949 590 p. illus. 24 cm. $6 00. 2833

Contents: Northeast spruce-hardwood region. New England white pine region. Oak region. Allegheny hardwood-pine-hemlock region. Southern Appalachian region. Southern pine region. Southern bottomland hardwood region. *Central hardwood region.* Lake States region. Douglas fir region. Northern Rocky Mountain region. Lodgepole pine region. Southwest ponderosa pine region. California pine region. Northwest ponderosa pine region. Black Hills ponderosa pine region. Redwood region. Southeastern Alaska. Appendix: Common names of trees and their scientific equivalents. Common names of insects and their scientific equivalents. Common names of diseases and some of their causal agents with their scientific equivalents. Author index. Subject index.

Note: (3114) A textbook on the application of silviculture in the 16 chief forest regions of the United States. It presents the fundamental principles of the ecology and economics of each of the forest regions with a view to giving the student a broad outlook of silvicultural problems. The book may also be useful as a reference book for the practitioner, especially since it contains at the close of each chapter a comprehensive list of references. The revised edition takes account of advances in silviculture since 1939. In the handling of data on prices, costs, and profits the author has, wherever possible, eliminated references to dollars and substituted man-hours of time or ratios to show relative values. Other changes include those made to conform with revised lists of tree names and forest-type classifications and additions to the bibliographies so as to include references to publications issued 1939–1948.

WESTVELD, RUTHFORD HENRY, AND RALPH H. PECK

Forestry in farm management, by R. H. Westveld and the late Ralph H. Peck. Second edition, revised by R. H. Westveld. New York John Wiley & Sons Inc. *1951 340* p. illus. 24 cm. $5.00 2834

Contents (abridged) Forest trees in a balanced agriculture. Growing forest-tree crops. How to improve and perpetuate existing farm forests. How to establish new farm forests. Measuring volumes and growth of farm forests. Making trees into the most valuable wood products. Marketing farm-forest products. Management of farm forests for special products. How farm forests may aid wildlife. Appendix. Index.

Note: (3115) The value and usefulness of forests to farmers, the methods of handling them, and the means of making them real farm assets are set forth in this book. It is divided into two parts, the first giving an account of the fundamental principles of modern farm forestry, the second (the appendix) presenting certain basic information such as log and volume tables. The second edition has been brought up to date and expanded and in some respects rewritten. It discusses the new equipment and the new techniques of the decade between the first edition and the second edition, the most notable being the power saws and the tree-planting machines which have reduced both the amount of labor needed and the cost of harvesting and planting trees. The references at the ends of the chapters have been revised. A new chapter has been added on the public and private aid available to farm-forest owners in the United States. Persons concerned with forests on farms, whether as farmers or county agricultural agents or teachers of vocational agriculture or students in agricultural colleges, find this book of basic value.

FOREST PRODUCTS

BROWN HARRY PHILIPS, AND OTHERS

Textbook of wood technology By H. P Brown, A. J Panshin, and C. C. Forsaith. Formerly published under the title, Commercial timbers of the United States. New York McGraw Hill Book Company Inc. 1949–52 2 v 23 cm. (The American forestry series, Walter Mulford, consulting editor) Vol. I $7 50 Vol. II, $10 00 2835

Contents: Volume I, Structure, identification, defects, and uses of the commercial woods of the United States: The plant origin of wood. The tree. The gross features of wood of value in identification. The woody plant cell. The cambia of trees. The minute structure of coniferous woods. The minute structure of porous woods. Variable quality of wood within tree-species. Figure in wood. Defects in wood. Natural durability of wood. Glossary Index. Volume II, The physical, mechanical, and chemical properties of the commercial woods of the United States: Part I, The physical properties of wood Density and specific gravity Wood in relation to moisture. Wood in relation to heat. Wood in relation to sound, light, and electricity The bending and finishing of wood. Part II, The mechanical properties of wood Mechanics of short wooden columns. The mechanics of wooden beams. The mechanics of wooden beams—stresses in simple wooden beams subjected to transverse loading. The mechanics of wooden beams—divers analyses with respect to wooden beams and members. Stresses in wooden columns up to the proportional limit. Stresses in wooden beams and columns beyond the proportional limit. Standard testing procedure for determining the mechanical properties of wood Working stresses for wood. Variation in the strength properties of wood. Strength properties of laminated wooden beams and columns. Strength properties and fire resistance of wood-steel construction. Strength properties of plywood. Holding power of timber fasteners. Holding power of timber fasteners—modern timber connectors. Stresses in framed structures. Part III, The chemical properties of wood. The chemical components of wood. Effect of chemical treatments on wood. Thermal reactions of wood and its decomposition by biological agents. Index.

Note: (5117) In this revision of an earlier work it has been the authors' purpose "to bring together all available worthwhile information on the commercial timbers of the United States. The work is used as text by college students of forestry and as reference tool by engineers, architects, and others requiring knowledge of the structure and characteristics of wood. Volume one retains the general arrangement and scope of the previous work, but the former sections on durability and defects of wood have been enlarged to form five new chapters. Volume two is entirely new and has been added to achieve the above-stated comprehensiveness.

BROWN NELSON COURTLANDT

Forest products the harvesting processing, and marketing of materials other than lumber including the principal derivatives, extractives, and incidental products in the United States and Canada. New York John Wiley & Sons Inc. 1950 399 p illus. 21 cm. $5.50 2836

Contents (abridged) Part I, Introduction, economics, and general considerations Relative importance of principal forest products. Technical properties in relation to uses. Decreasing use of special products. Farm woodlands as sources of forest products. Principal developments and advances made in recent years. Part II, Construction materials: Veneers and plywood. Cross ties. Shingles and shakes. Part III, Chemically derived products: Wood pulp and its products. Wood-distillation products. Rubber Maple sugar and sirup. Part IV Wood containers. Part Mechanically reduced products. Excelsior. Wood flour. Wood densification. Part VI, Wood as fuel. Part VII, Miscellaneous products: Bark (other than for tannin). Christmas trees and decorations. Wild fruits, edible nuts, and tree seeds. Glossary of some terms as used with forest products. Bibliography of forest products. Index.

Note (5120) The ancestry of this book goes back to the author's *Forest products* which appeared in 1919 and was revised and published in second edition in 1927 In 1937 the book was again revised and published under the title of *Timber products*. Now the original title has been restored. The book remains treatise and reference book on the harvesting, processing, and uses of forest products other than sawn lumber. In the present edition the economic data have been revised and good share of the descriptive text has been completely rewritten. Also there are discussions of many new topics, such as sandwich type of wall panels, compressed wood, and insulating wool from tree bark. As in earlier editions, minor forest products, such as spruce gum and Spanish moss, are covered as well as major products.

LARSON, AGNES MATHILDA

History of the white pine industry in Minnesota. Minneapolis Minn. University of Minnesota Press 1949 432 p. illus. 23 cm. $7 50 2837

Contents: Minnesota's forest treasure. The lumber industry comes to the Upper Mississippi valley The home market stimulates the mills at St. Anthony and Winona, 1850–1870. The pinelands of the St. Croix delta become the property of lumbermen. Logging in the St. Croix forests. Rafting and milling downriver. Railroads broaden the market for the white pine of the Upper Mississippi, 1870–1890. Lumber and logs on the Mississippi after 1870. Growth of sawmills in Minnesota, 1870–1890. Logging and driving, 1870–1890. Life in the woods. The downriver sawmills are stilled. The lumber industry in Minneapolis reaches its height, 1890–1905. The Duluth district sends its white pine eastward. The pinelands of northern Minnesota become private property The operation of national land laws in the pineland area. The operation of state laws in the pineland area. The new age in logging and sawing. Marketing and prices, especially after 1890. The white pine in the building of the state. Index.

Note: A full-scale history based upon consultation and study of original company records and interviews with persons formerly active in an extensive regional industry. The story is told in detail of the cooperation of the promoters and managers of little and big business units and the lumberjacks and other workers in lumber who, with the help of tools and machines and rivers and lakes, felled the trees, manufactured the lumber, and sent it to market. A section of 16 pages of illustrations includes reproductions of many original photographs of loggers at work.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Charcoal production and uses. New Haven, Conn. Northeastern Wood Utilization Council, Inc., 1952 101 p illus. 23 cm. (Its bulletin no. 37) Paper $2 00. 2838

Contents: The physical and chemical properties of commercial charcoals in relation to industrial use, by C. A. [illegible] and H. [illegible]. [illegible]. Small rectangular charcoal kilns, by E. W. [illegible]. The [illegible] Charcoal production in steel drums, by H. L. [illegible]. The [illegible] carbonization of wood; SIFIC process, by A. [illegible]. History and present status of the industry; continuous carbonization, the Mellman retort, by D. F Othmer. Beehive kiln operation, by D. F Othmer. Domestic uses and distribution, by C. K. [illegible]. Industrial uses, by R. P Kelly Briquetting of charcoal, by R. S. Aries. Active carbon, by J. W Hassler.

Note A collection of original papers presented at a conference held in cooperation with the University of New Hampshire in Durham, New Hampshire in September 1951. Each paper is a short technical discussion of some aspect of the manufacture or use of wood charcoal. Two of the papers deal with charcoal production in small portable kilns.

NORTHEASTERN WOOD UTILIZATION COUNCIL, INC.

The chemistry and utilization of bark. Report of conference at Cambridge Mass., September 17 1948 New Haven Conn Northeastern Wood Utilization Council, Inc. 1949 133 p. illus. 23 cm. (Its bulletin no. 25) Paper $3.00 2839

Contents: Estimates of bark supply in the Northeast, by J C. Rettie and F C. Simmons. The chemical composition of barks, by E. F Kurth. Research on bark at McGill, by V D Harwood and C. B. Purves. The development on bark problems by Weyerhaeuser, by W G. Van Beckum. Structural boards from eastern cedar and western red cedar barks, by H. Schwartz. The domestic vegetable tannin situation, by R. M. Lollar and F O'Flaherty Tannin from northeastern barks, by J. S. Rogers. The possible use of bark in soils, by R. Wahl. The use of bark for paper de-inking, by R. S. Aries. Improvement of bark burning methods through the use of bark drying, by J. H. Friday The drying of bark, preliminary report by Northeastern Wood Utilization Council.

Note: This pamphlet contains original papers presented at the conference named in its title. All of the papers are technical discussions bearing on established or potential uses of tree bark.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Chipped wood production and uses. New Haven, Conn. Northeastern Wood Utilization Council, Inc. 1951 135 p. illus. 23 cm. (Its bulletin no. 33) Paper $2.00 2840

Contents: Wood chips and forestry, by A. C. McIntyre. Possibilities of wood chipping in forest management, by A. Koroleff. Stationary chippers for processing low-quality and waste wood, by J. T. Morgan. Portable wood-chipping equipment, by E. W Fobes. A pilot study of the use of light portable wood chippers, by R. H. Fenton. Panel discussions: A, Brush disposal Land clearing, by R. A. McKusick. Power lines, by L. M. Miller Pulpwood operations, by C. R. Silversides. B, Uses for chipped wood: Mulch for berries, by V G. Shutak and R. P Christopher Soil amendment—decomposition of wood chips in soil, by M. Salomon. Wood chips as soil amendment, by H. A. Lunt. Material for compost, by R. C. Schon. Bedding—wood chips as bedding material for dairy cows, by R. W Henderson, Jr. Wood chips as bedding, by W Pulver. Pulpwood, by J. S. Hart. Roofing—The saturating felt industry in the Northeast, by C. R. Lockard and C. E. Hrubesky. Wood chips for use in roofing felt manufacture, by F T Ratliff. Wallboard, by R. S. Aries. Fuel, by E. C. Miller. Appendix. Index.

Note: A collection of short papers that were originally presented at a discussion conference held at Marlboro College, Marlboro, Vermont. The papers are short and only a few of them are accompanied by literature references. However each one contains useful information bearing on established or potential uses of chipped wood made by grinding or chipping wood wastes obtained in manufacturing or land-clearing operations.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wallboard production and uses. Report of conference at Cambridge, Mass. September 16, 1949 New Haven, Conn. Northeastern Wood Utilization Council, Inc., 1950 183 p. illus. 23 cm. (Its bulletin no 31) Paper $4.00. 2841

Contents (abridged) Wood waste supply in New England, by R. S. Sowinski. Demand for wallboard from dealers' standpoint, by J. A. Nickerson. Preparation and characteristics of fiber pulp for hardwood, by A. Asplund. The silox and stabruft processes for wallboard manufacture, by P Macpillera. Resin bonded boards from wood waste, by G. Wyss. Wallboard from wood waste without resins by a dry process, by D. F Othmer and L. G. Rochell. Durisol light weight pre-cast concrete, by J. D. Dale. Variables affecting the properties of wood waste molding, by T W Sears, Jr. Resin bonded wood waste panels, by T. H. Vaughan. Development of plasreed products, by R. A. Caughey Production of wood waste boards by a continuous process, by W J. Fleckbein. Woodschood, by W C. Smith. Equipment for wallboard manufacture, by H. D. Thrasell. The modern combination insulation hardboard factory by H. K. Linzell. Summary and conclusions, by R. S. Aries. Index.

Note: A collection of original papers written for the conference named in the book's title. Most of the papers contain explicit descriptions of the manufacture of particular products classed as wallboard. Some of these contain data on strength and other engineering properties and some contain economic data. Only wallboards in which wood is an ingredient are discussed. The majority of authors are associated with United States manufacturing companies, but some of them are nationals of other countries.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wood fuel. Report of conference at Philadelphia, May 10 1951 New Haven, Conn. Northeastern Wood Utilization Council, Inc. 1951 77 p. illus. 23 cm. (Its bulletin no 35) Paper $3.00 2842

Contents The world wood fuel situation, by H. I. Baldwin. Wood fuel in a national emergency by E. L. Hermann. Characteristics of wood as fuel, by R. P H. Miller. Wood fuel values. A, Stick wood. Harvesting wood in stick form, by F C. Simmons. B, Chipped wood: Source and availability of chipped wood for fuel, by R. R. Alexander. Use of chips in gravity feed stoves, by J W Allen. Spreader stoker firing of wood and coal in multiple fuel furnaces, by E. C. Miller and G. E. Hansen. C, Briquets: Briquets from sawdust, bark and other waste, by W W Letts.

Note. A collection of short technical papers on various aspects of the use of wood as fuel. The emphasis is on the use of waste wood in chipped or briquetted form. Several of the authors pay special attention to the economic problem created by the rising cost of hand labor in wood gathering.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wood products for fertilizer Bulletin number 32 June, 1950 New Haven, Connecticut Northeastern Wood Utilization Council, 1950 53 p. illus. 23 cm. Paper $1 00. 2843

Contents: Fertilizer requirements of the Northeast, by J. A. Chucka. Wood ashes as a fertilizer, by H. A. Lunt. The use of sawdust, shavings and superphosphate with dairy manure, by A. R. Midgley. Comparisons of sawdust and wheat straw for bedding, by J W White. The utilization of waste bark, by R. G. Fuller and others. Action of soil bacteria on wood products, by C. Thom. The use of lignin in potato fertilizer by S. Dunn and others. Research on lignin as a soil builder by R. S. Aries.

Note: (2330*) A revision of a collection of papers which were presented originally at a conference held in 1948 and published in pamphlet form the same year. The material is based largely on investigations conducted at state agricultural experiment stations. In this edition new developments are reported and a paper on the utilization of bark has been added. Two papers on lignin, printed in the first edition, have been omitted.

PANSHIN ALEXIS JOHN AND OTHERS

Forest products their sources, production, and utilization. By A. J Panshin E. S Harrar W J Baker and P B Proctor New York McGraw Hill Book Company Inc.,

1950 549 p illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) $6.50 2844

Contents: Part I, Economics of forest utilization. Timber resources and their importance in the economy of the United States. Wood residues and the related problems of wood-utilization research. The relation of wood properties to wood utilization. Part II, Wood products: Round timbers. Mine timbers. Railroad ties. Wood furniture. Veneers and plywood. Wood containers. Shingles and shakes. Wood flour. Sawdust and shavings. Wood fuel. Minor wood products. Part III, Chemically derived products from wood. Pulp and paper. Thermal- and sound-insulation materials. Cellulose filaments and film. Carbonization and destructive distillation of wood. Wood saccharification. Part IV. Derived and miscellaneous forest products: Naval stores. Maple sirup and sugar. Tannins and dyes. Wood in the plastics industry. Minor forest products. Index.

Note. A college textbook which is useful also as an elementary reference book in institutional and personal libraries. The first part occupies only 51 pages. The rest of the space is devoted to specific descriptions of forest products which are currently manufactured in the United States of America or are imports of economic importance. Individual products are described in adequate detail and the methods of manufacturing each one are also described. Flow charts are used frequently to diagram processes, and illustrations are included to show special machines and techniques. Selected literature references are included.

ADDENDA

ALLEN, JAMES H., editor
Strabismus ophthalmic symposium (I) With 181 illustrations. St. Louis The C. V Mosby Company 1950. 476 p. illus. 26 cm. $10.50 2845

Contents: The anatomy of the extrinsic muscles of the eye, by W H. Fink. The voluntary mechanism for eye movements, by F H. Adler. The involuntary or reflex mechanism, by F H. Adler. General physiology of the ocular muscles, by F H. Adler. The sensory physiology of binocular vision, by K. C. Swan. Normal and anomalous correspondence, by H. M. Burian. Classification of ocular movements—ophthalmostatic and ophthalmokinetic apparatus, by H. M. Burian. Terminology with extended comments on the position of rest and on fixation, by W B. Lancaster Etiology of heterophoria and heterotropia, by H. M. Burian. Etiology of heterotropia and heterophoria, by R. G. Scobee. Congenital structural muscle anomalies, by H. W Brown. Clinical application of neurology by G. P Guibor. Screen cover test, by H. W Brown. Measurement of deviations, by W B. Lancaster Some uses of ophthalmic prisms, by G. P Guibor. The use of atropine in the treatment of motor defects, by G. P Guibor An evaluation of the pleoptic, by R. G. Scobee. The management of convergent strabismus, by F D. Costenbader. The physiology and management of divergent strabismus, by F D. Costenbader. Factors in the cure of squint, by F D Costenbader Which muscle should be attacked in tropia surgery by R. G. Scobee. Surgical management of convergent strabismus, by C. S. O'Brien. Surgical treatment of concomitant divergent strabismus, by O. S. Lee and C. S. O'Brien. Surgery of the oblique muscles, by H. W Brown. Factors underestimated, features overemphasized, and comments on classification, by W B. Lancaster. Discussion. Index.

Note: A book planned as specialized medical college course at the postgraduate level. Although some material was reprinted from such professional journals as the *Archives of ophthalmology* the papers are for the most part original. All are accompanied by literature references.

INORGANIC SYNTHESES. Volume III. Editor in-chief Ludwig F Audrieth. Associate editors John C. Bailar jr and others. Consultant on nomenclature and indexing Janet D Scott. Advisory board Arthur A. Blanchard, W C. Johnson and Raymond E. Kirk. New York McGraw Hill Book Company Inc., 1950 230 p. illus. 23 cm. $4.50 2846

Note: (291*) The present volume of this important series contains fifty-three new syntheses. Typical substances are sodium peroxide 8-hydrate, basic beryllium acetate and propionate, boron chloride and bromide, carbon tetraiodide, vinylchlorosilanes, methyl germanium triiodide, hydroxylammonium salts, sodium pyrophosphates, ammonium metavanadate, columbium (IV) oxychloride, telluric acid, chromium hexacarbonyl, anhydrous metal fluorides, rhenium (VII) oxide, and anhydrous iron (III) chloride. Each synthesis has been selected by board of editors comprised of eminent American chemists, and has been checked by one or two chemists other than the submitter. For each substance there are brief general discussion, detailed description of the laboratory procedure, discussion of properties, and list of references to related literature. In some cases, there is diagram of the laboratory apparatus.

JACOBSON C A compiler and editor
Encyclopedia of chemical reactions. Volume III. New York Reinhold Publishing Corporation, 1949 842 p. 24 cm. $15.00 2847

Contents: Cobalt. Columbium. Copper. Didymium. Dysprosium. Erbium. Europium. Fluorine. Gadolinium. Gallium. Germanium. Gold. Hafnium. Holmium. Hydrogen. Illinium. Indium. Iridium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained (formulas). Index to substances obtained (names)

—— —— Volume IV New York Reinhold Publishing Corporation 1951 790 p. 24 cm. $15.00 2848

Contents: Introduction. Abbreviations. Iron. Lanthanum. Lead. Lithium. Magnesium. Manganese. Mercury Molybdenum Neodymium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained.

Note. (291–291*) Additional volumes in reference work which is designed to provide short statements of the inorganic reactions that have been reported in the literature. The arrangement is alphabetical, first by chemical elements, then under each element by reactant and reagent. The information given for each reaction varies but always includes an expression of it in equation form and reference to the original source. Brief data on procedures, conditions, and the properties of products are given in many instances.

NEW YORK ACADEMY OF MEDICINE
Disorders of the circulatory system a symposium presented at the twenty fourth graduate fortnight of the New York Academy of Medicine, October eighth to nineteenth, 1951 Edited by Robert L. Craig. New York The Macmillan Company 1952 305 p. illus. 23 cm. $5.50 2849

Contents: The role of the connective tissue in diseases of the cardiovascular system, by P Klemperer. Contraction in the heart muscle fiber by A. Szent-Gyorgyi. Lipid metabolism and atherosclerosis, by A. Keller. Diet and lipotropic agents in atherosclerosis, by J. W Gofman. Coronary disease—clinical-pathologic correlations and physiology by H. L. Blumgart. The clinical recognition of coronary heart disease, by R. L. Levy The importance of cardiac arrhythmias, by L. N Katz. Pathologic physiology of mitral stenosis and its surgical implications, by L. Dexter. Surgery of acquired valvular disease, by R. H. Wylie. Surgical remedies in congenital cardiovascular disease, by G. H. Humphreys II. The electrocardiographic effects of myocardial and pericardial injury by C. E. Kossmann. Edema and dyspnea of heart failure, by E. A. Stead, jr. The mechanism and management of circulatory failure, by W Dock. The treatment of some bacterial infections of the heart and pericardium, by T H. Hunter. Humoral and vasomotor controls of blood vessels, by I H. Page. Endocrine factors in hypertension, by G. A. Perera. The medical management of acute and chronic arterial occlusion, by A W Duryee. The surgical therapy of acute and chronic arterial occlusion, by J W Lord, jr. Circulatory responses to life situations, by S. Wolf. List of committees Subjects of past fortnights, 1928–1951

Note The papers collected in this book were presented on the occasion named in the book's title, and were part of course addressed to graduate practitioners. The course included, besides these lectures, panel discussions, hospital clinics, and scientific exhibit. The lecturers were drawn, for the most part, from the faculties of leading medical schools in the City of New York and elsewhere in the United States. Some of the authors described developments and techniques not previously published and all presented authoritative surveys of their special topics.

DIRECTORY OF PUBLISHERS

Abelard Press, Inc., 381 Fourth Avenue, New York 16, N. Y

Academic Press, Inc., 125 East 23rd St., New York 10, N. Y

Addison Wesley Press, Inc. *See* Addison-Wesley Publishing Company

Addison-Wesley Publishing Company Kendall Square Building, Cambridge 42, Mass.

Aero Publishers, Inc., 2162 Sunset Blvd., Los Angeles 26, Calif.

American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W Washington 5, D C.

American Association of Petroleum Geologists, P.O. Box 979, Tulsa 1 Okla.

American Association of State Highway Officials, 917 National Press Bldg., Washington 4 D C.

American Book Company 55 Fifth Ave., New York 3 N. Y

American Cancer Society Inc., 47 Beaver St., New York 4, N. Y

American Ceramic Society Inc., 2525 North High St., Columbus 2, Ohio.

American Chemical Society 1155 16th St., N.W Washington 6, D C.

American Council on Education 1785 Massachusetts Ave., Washington 6, D. C.

American Dental Association 222 East Superior St., Chicago 11, Ill.

American Foundrymen's Society 616 S. Michigan Ave., Chicago 5 Ill.

American Institute of Mining and Metallurgical Engineers, 29 West 39th St., New York 18, N. Y

American Iron and Steel Institute, 350 Fifth Avenue, New York 1, N. Y

American Mathematical Society 80 Waterman St., Providence 6, R. I.

American Meteorite Museum, Box 1171 Winslow Arizona.

American Meteorological Society 3 Joy St., Boston 8, Mass.

American Petroleum Institute, 50 West 50th St., New York 20, N. Y

American Philosophical Society 104 South 5th St., Philadelphia 6, Penn.

American Public Health Association 1790 Broadway New York 19 N Y

American Pulp and Paper Association 122 East 42nd St., New York 17 N. Y

American Radio Relay League, 38 La Salle Rd., West Hartford, Conn.

American Registry of Pathology 7th St. and Independence Ave., S.W Washington, D. C.

American Society of Civil Engineers, 33 West 39th St., New York 18, N Y

American Society for Metals, 7301 Euclid Ave., Cleveland 3 Ohio.

American Society for Testing Materials, 1916 Race St., Philadelphia 3 Penn.

American Technical Society 848 East 58th St., Chicago 37 Ill.

American University Press, 1901 F St., N.W Washington 6, D. C.

American Water Works Association, Inc., 521 Fifth Ave., New York 17 N. Y

American Welding Society 33 West 39th St., New York 18, N Y

W B Andrews, State College, Mississippi.

Annual Reviews, Inc., Stanford, Calif.

Appleton-Century-Crofts, Inc., 35 West 32nd St., New York 1, N. Y

Armed Forces Medical Library 7th St. and Independence Ave., S.W Washington 25, D C.

Associated General Contractors of America, Munsey Bldg Washington 4, D C.

Association of Official Agricultural Chemists, P.O. Box 540, Benjamin Franklin Station, Washington 4, D C.

Theo. Audel and Company 49 West 23rd Street, New York 10, N. Y

Floyd Barnhart Caruthersville, Missouri.

M. Barrows and Company 425 Fourth Ave., New York 16, N. Y

Basic Books, Inc., 59 Fourth Ave., New York 3 N Y

Charles A. Bennett Company Inc., 237 N. Monroe St., Peoria 3, Ill.

Blakiston Company Inc., 575 Madison Ave., New York 22, N. Y

Bobbs-Merrill Company 730 N Meridian St., Indianapolis, Ind.

R. R. Bowker Company 62 West 45th St., New York 19 N. Y

Wm. C. Brown Company 915 Main St., Dubuque, Iowa.

Bruce Publishing Company 400 N. Broadway Milwaukee, Wis.

Burgess Publishing Company 426–428 S. 6th St., Minneapolis 15, Minn.

Cambridge University Press, 32 East 57th St., New York 22, N Y

Camera Craft Publishing Company 95 Minna St., San Francisco 5, Calif.

Cameron Publishing Company Coral Gables, Fla.

Carnegie Institution of Washington 1530 P St., N.W Washington 5, D. C.

Chemical Education Publishing Company Easton, Penn.

Chemical Publishing Company 212 Fifth Ave., New York 10, N. Y

Chicago Natural History Museum, Roosevelt Road and Lake Shore Drive, Chicago 5, Ill.

Child Development Publications, Fayerweather Hall E., Northwestern University Evanston, Ill.

Chronica Botanica Company P.O. Box 151, Waltham 54, Mass.

College Offset Press, 148–150 N. 6th St., Philadelphia 6, Penn.

Colorado School of Mines, Golden, Colorado.

Columbia University Press, 2960 Broadway New York 27 N Y

Commonwealth Fund. *See* Harvard University Press.

Comstock Publishing Company *See* Cornell University Press.

Connecticut Academy of Arts and Sciences, 701 Sterling Tower Yale University New Haven, Conn.

Cornell University Press, 124 Roberts Place, Ithaca, N Y

Cranbrook Institute of Science, Bloomfield Hills, Mich.

Scientific, Medical, and Technical Books

Thomas Y Crowell Company 432 Fourth Ave., New York 16, N Y
Crown Publishers, 419 4th Ave New York 16, N. Y

Dadant & Sons, Inc., Hamilton, Ill.
F A. Davis Company 1914–16 Cherry St., Philadelphia 3 Penn.
John Day Company Inc., 210 Madison Avenue, New York 16, N Y
Devin Adair Company 23 East 26th St., New York 10, N. Y
Dodd, Mead & Company Inc., 432 Fourth Ave., New York 16, N. Y
F W Dodge Corporation, 119 West 40th St., New York 16, N. Y
Doubleday & Company Inc., 575 Madison Ave New York 22, N Y
Dover Publications, Inc., 1780 Broadway New York 19 N Y
Frederick J Drake & Company 117 Green Bay Road, Wilmette, Ill.
E. C. Driver, Northampton, Mass.
Drug Publications Inc., 49 West 45th St., New York 19, N. Y
Dryden Press, Inc., 31 West 54th St., New York 19 N Y
Duke University Press, College Station, Box 6697 Durham, N.C.
E. P Dutton & Company 300 Fourth Avenue, New York 10, N. Y

Entomological Society of Washington Washington 25 D C.

J H. Frandsen, 92 High Street, Amherst, Mass.
Free Press, Glencoe, Ill.
W H. Freeman and Company 549 Market St., San Francisco 5 Calif
Funk & Wagnalls Company 153 East 24th St., New York 10, N. Y

Garden City Books, 575 Madison Ave., New York 22, N. Y
Geological Society of America, 419 West 117th St., New York 27 N. Y
Ginn and Company 72 Fifth Ave., New York 11 N Y
Goodheart Willcox Company Inc., 1321 S. Michigan Ave., Chicago 5 Ill
Government Printing Office. *See* U S Government Printing Office.
Arthur H. Graves, Wallingford, Conn.
Greenberg, 201 East 57th St., New York 22, N Y
Gregg Publishing Company *See* McGraw Hill Book Company Inc.
Grune & Stratton Inc., 381 Fourth Ave., New York 16, N. Y
Gulf Publishing Company P.O Box 2811 Houston, Texas

Handbook Publishers, Inc., Sandusky Ohio.
Harcourt Brace and Company Inc., 383 Madison Ave., New York 17 N. Y
Harper and Brothers, 49 East 33rd St., New York 16, N. Y
Harvard University Observatory Blue Hill Meteorological Observatory Milton, Mass.
Harvard University Press, 44 Francis Ave., Cambridge 38, Mass.
Frank A. Heacock, School of Engineering, Princeton University Princeton, N J
Health Publications Institute, Inc 216 N. Dawson St., Raleigh, N. C.

D C. Heath and Company 285 Columbus Ave., Boston 16, Mass.
Heating, Piping & Air Conditioning Contractors National Association Suite 1401, Rockefeller Center New York 20, N. Y
Norman W Henley Publishing Company 254 W 54th St., New York 19 N. Y
Highway Research Board, 2101 Constitution Ave., N.W Washington 25 D C.
Paul B. Hoeber, Inc., Medical Book Department, Harper and Brothers, 49 East 33rd St., New York 16, N Y
Henry Holt and Company Inc., 383 Madison Avenue, New York 17 N. Y
Home Craftsman Publishing Company 115–117 Worth Street, New York 13 N Y
Johns Hopkins Press, Homewood, Baltimore 18, Maryland.
Houghton Mifflin Company 2 Park St., Boston 7 Mass.
Otto F Hunziker, 103 Seventh Ave., La Grange, Ill.

Illuminating Engineering Society 1860 Broadway New York 23, N Y
India Rubber World, 386 Fourth Ave., New York 16, N. Y
Industrial Press, 148 Lafayette St., New York 13 N. Y
Industrial Publications, Inc., 5 S. Wabash Ave., Chicago 3 Ill.
Industrial Research Service, Masonic Building, Dover, N H.
Industry Publications, 175 Fifth Ave New York 1, N. Y
Institute of Paper Chemistry Appleton, Wis.
Instruments Publishing Company 921 Ridge Ave., Pittsburgh 12 Pa.
International Textbook Company 1001 Wyoming Ave., Scranton 9, Pa.
Interscience Encyclopedia, Inc., 66 Court Street, Brooklyn 2, N Y
Interscience Publishers, Inc., 250 Fifth Ave., New York 1 N Y
Interstate Printers and Publishers, Inc., 19–27 N. Jackson St., Danville, Ill.
Iowa State College Press, Press Building, Ames, Iowa.
Ives Washburn Inc., 27–29 West 57th St., New York 19, N Y

Johns Hopkins Press, Homewood, Baltimore 18, Maryland.

Killion & Sons Apiaries, Paris, Ill.
Alfred A. Knopf Inc., 501 Madison Ave., New York 22, N Y

Lea & Febiger, 600 Washington Square, Philadelphia 6, Penn.
Library of Congress, Washington 25, D C.
J B Lippincott Company East Washington Square, Philadelphia 5, Penn.
Linotype Process Company 523 Folsom St., San Francisco 5 Calif.
Little, Brown & Company 34 Beacon Street, Boston 6, Mass.
Longmans, Green and Company Inc., 55 Fifth Ave., New York 3 N. Y

McGraw Hill Book Company Inc., 330 West 42nd St New York 36, N Y
Mack Publishing Company 20th and Northampton Sts., Easton, Penn.
McKnight & McKnight Publishing Company Market and Center Sts., Bloomington, Illinois.

Directory of Publishers

Macmillan Company 60 Fifth Ave., New York 11 N. Y
MacNair-Dorland Company 254 West 31st St., New York 1 N. Y
Massachusetts Institute of Technology Press, 77 Massachusetts Ave., Cambridge, Mass.
Merck & Company Inc., Rahway New Jersey
Michigan State College Press, East Lansing, Michigan.
Milbank Memorial Fund, 40 Wall St., New York 5 N. Y
Morgan & Lester, 101 Park Avenue, New York 17 N. Y
C. V Mosby Company 3207 Washington Blvd., St. Louis 3, Missouri.
Murray Hill Books. *See* Rinehart and Company Inc.
Museum of Modern Art 11 West 53rd St., New York 19 N. Y

National Fertilizer Association, 616 Investment Bldg Washington 5 D. C.
National Pickle Packers Association 1012 North Boulevard, Oak Park, Ill.
National Research Council, 2101 Constitution Ave., N.W Washington 25 D. C.
National Safety Council, Inc., 425 N. Michigan Ave., Chicago 11, Ill.
National Society for Crippled Children and Adults, Inc., 11 S. La Salle St., Chicago 3 Ill.
National Vitamin Foundation, Inc., 15 East 58th St., New York 22, N. Y
C. C. Nelson Publishing Company 213–215 E. Washington St., Appleton, Wis.
Nickerson & Collins Company 433 N. Waller Ave., Chicago 44 Ill.
Northeastern Wood Utilization Council, P.O. Box 1577 New Haven 6, Conn.
W W Norton & Company Inc., 101 Fifth Ave., New York 3, N. Y

Odyssey Press, Inc., 101 Fifth Ave., New York 3 N. Y
Oil Heat Institute of America, Inc., 6 East 39th St., New York 16, N. Y
Oxford University Press, Inc., 114 Fifth Ave., New York 11, N. Y

Pacific Press Publishing Association, Mountain View Calif.
Pan American Navigation Service, 12021 Ventura Boulevard, North Hollywood, Calif.
Pennsylvania State College, State College, Penn.
Alvan Peterson Ohio State University Columbus, Ohio.
Philosophical Library Inc., 15 East 40th St., New York 16, N. Y
Pitman Publishing Corporation, 2 West 45th St., New York 36, N. Y
Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y
Princeton University Observatory Princeton, New Jersey
Princeton University Press, Princeton, New Jersey
Psychological Corporation 522 Fifth Ave., New York 18, N. Y
G. P Putnam's Sons, 210 Madison Ave., New York 16, N. Y

Random House, Inc., 457 Madison Ave., New York 22, N. Y
Reinhold Publishing Corp 330 West 42nd St., New York 18, N. Y
Remsen Press. *See* Chemical Publishing Company
Research Press, Inc., 137 N. Perry St., Dayton 4 Ohio.
John F Rider, Inc., 480 Canal St New York 13 N Y
Rinehart & Company Inc., 232 Madison Ave., New York 16, N. Y
Rochester Institute of Technology 65 Plymouth Ave., S., Rochester 8, N Y
Ronald Press Company 15 East 26th St., New York 10, N. Y
Rutgers University Press, New Brunswick, New Jersey

Sage Books, Inc., 1716 View Point Rd., Denver 14, Colorado.
Howard W Sams & Company Inc., 2201 East 46th St., Indianapolis 5 Indiana.
W B. Saunders Company West Washington Square, Philadelphia 5 Penna.
Henry Schuman Inc., 20 East 70th St., New York 21 N Y
Scientific Book Publishing Company 530 S. Fourth St., Vincennes, Indiana.
Scott Foresman & Company 433 E. Erie St., Chicago 11 Ill.
Charles Scribner's Sons, 597 Fifth Ave., New York 17 N. Y
Fred J Seaver, 201 Alexander Place, Winter Park, Florida.
Sibel Publishing Company 747 W Jackson Blvd., Chicago 6, Ill.
Simmons-Boardman Books, Division of Simmons-Boardman Publishing Corp., 30 Church St., New York 7 N. Y
William Sloane Associates, Inc., 119 W 57th St., New York 19, N. Y
Smithsonian Institution, North 10th St. and Independence Ave S.W Washington, D. C.
Social Science Research Council, 230 Park Ave., New York 17 N. Y
Society of American Foresters, Mills Building, Washington 6, D. C.
Society of Exploration Geophysicists, 1138 E. 37th St., Tulsa 18, Oklahoma.
Society of Motion Picture and Television Engineers, 40 West 40th St., New York 18, N. Y
Springer Publishing Company Inc., 1 Madison Ave., New York 10, N. Y
Stackpole Company 100 Telegraph Bldg Harrisburg, Penn.
Standard Scientific Supply Corp 34 W Fourth St., New York 12, N Y
Stanford University Press, Stanford, Calif.
Stanley Works, Stanley Tools Division, New Britain, Connecticut.
Steel Founders' Society of America, 920 Midland Building, Cleveland 15 Ohio
Structural Clay Products Institute, 1520 18th St., N W Washington 6, D C.
Sugar Research Foundation, Inc., 52 Wall St., New York 5 N. Y

Technology Press of the Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, Mass.
Textile Book Publishers, Inc., 303 Fifth Ave New York 16, N. Y
Charles C Thomas, 301–327 E. Lawrence Ave., Springfield, Ill.
S. F Teelease, Box 42, Schermerhorn Hall, Columbia University New York 27 N. Y

U S. Government Printing Office, Washington 25, D C. Orders for most publications of agencies of the United States Government should be addressed to the Government Printing Office, Washington, D C. Inquiries about them may be addressed to the agency that issued the document or to the Superintendent of Documents, Washington, D C.
United States Library of Congress, Washington 25 D. C.

Scientific, Medical, and Technical Books

United States Naval Institute, Annapolis, Md.
University of Arizona Press, Tucson, Ariz.
University of California Press, Berkeley 4 Calif.
University of Chicago Press, 5750 Ellis Ave., Chicago 37 Ill.
University of Denver Press, University Park, Denver 10, Colorado.
University of Florida Press, Room 202, Bldg. G, Gainesville, Fla.
University of Georgia Press, Athens, Georgia.
University of Hawaii Press, Honolulu 14 Hawaii.
University of Illinois Press, Urbana, Illinois.
University of Kansas Press, Lawrence, Kansas.
University of Kentucky Press, Frazee Hall, Lexington 29 Kentucky
University of Michigan Press, 2556 Administration Building, Ann Arbor Michigan.
University of Minnesota Press, 10 Nicholson Hall, Minneapolis 14 Minnesota.
University of New Mexico Press, Albuquerque, New Mexico.
University of North Carolina Press, Chapel Hill, N C.
University of Notre Dame Press, Notre Dame, Indiana.
University of Oklahoma Press, Norman, Oklahoma.
University of Pennsylvania Press, 3436 Walnut St., Philadelphia 4 Penn.
University of Pittsburgh Press, Pittsburgh 13 Penn.
University of South Carolina Press, Columbia 19, S. C.
University of Southern California, Office of University Publications, Los Angeles 7 Calif.
University of Tennessee Press, Box 8540, Knoxville 16, Tenn.
University of Texas Press, Austin, Texas.
University of Washington Press, 111 Thomson Hall, Seattle 5 Wash.
University of Wichita Press, Wichita, Kansas.
University of Wisconsin Press, 811 State St., Madison 5, Wis.

S. F Vanni, 30 West 12th St., New York 11 N Y
D Van Nostrand Company Inc., 250 Fourth Ave., New York 3 N. Y
Viking Fund Inc., 14 East 71st St., New York 21, N. Y
Viking Press, Inc., 18 East 48th St., New York 17 N Y

Frank R. Walker Company 173 West Madison St., Chicago 2, Ill.
Ives Washburn, Inc., 27–29 West 57th St., New York 19, N. Y
John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N Y
Williams & Wilkins Company Mount Royal and Guilford Avenues, Baltimore 2, Maryland.
H. W Wilson Company 950 University Ave., New York 52, N. Y
World Book Company Yonkers 5, New York.

Yale University Press, New Haven 7 Conn.
Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11 Ill.

AUTHOR INDEX

WITH SELECTED TITLES

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Scientific, Medical, and Technical Books

Author Index

Author Index

Author Index

SUBJECT INDEX

Scientific, Medical, and Technical Books

Subject Index

Subject Index

Subject Index

Subject Index